HOW CLOSE ARE OKLAHOMA HOSPITALS TO BEING BABY – FRIENDLY?

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CHAPTER I

INTRODUCTION

Hospitals are instrumental to breastfeeding initiation and are the first support system that new mothers encounter. Therefore, it is important for hospital staff to promote and encourage breastfeeding to help mothers succeed. Traditional hospital practices often interfere with breastfeeding initiation and success, and it is vital to identify these practices and work to improve them (Philipp et al., 2001). The World Health Organization's (WHO) Baby – Friendly Hospital Initiative (BFHI) and its Ten Steps to Successful Breastfeeding were designed in an effort to improve traditional hospital practices that impede breastfeeding initiation and success (WHO/UNICEF, 1990). A detailed explanation of the BFHI and its components will be discussed in Chapter II. In 1998, the national average of mothers who were initiating breastfeeding was 64%, mothers who were breastfeeding at six months was 29%, and mothers who were breastfeeding at 12 months was 16% (CDC, 2000, n.p.). However, in Oklahoma, these numbers are much lower as only 61.6% of children are ever breastfed, 25.2% are breastfed at six months, and 9% are breastfed at 12 months (CDC, 2004c, n.p.). Because Oklahoma is well below the national averages, this study will focus on Oklahoma hospitals and how they help or hinder breastfeeding initiation and success. The study is comprised of three components – one focusing on the knowledge and attitudes of

maternity nurses, one focusing on nursing administrators and their knowledge of the BFHI and how their institutions do or do not practice the Ten Steps to Successful Breastfeeding, and one focusing on hospital administrators and their knowledge of the BFHI, as well as their attitudes towards no formula reimbursement from formula companies, a key component of the Initiative. The following sections will discuss each of the components and the research questions they are designed to answer.

Knowledge and Attitudes of Maternity Staff

Research Question

What do maternity nurses in Oklahoma hospitals know about breastfeeding and the Baby-Friendly Hospital Initiative and what is their attitude toward breastfeeding?

Hypothesis #1

Maternity nurses in Oklahoma are not knowledgeable about breastfeeding.

Hypothesis #2

Maternity nurses in Oklahoma do not have positive attitudes toward breastfeeding.

Justification

New mothers are more likely to breastfeeding when they are surrounded by a staff that is knowledgeable about and promotes breastfeeding in a positive light (McCreath, Wilcox, Laing, Crump, & Giles, 2001). Many mothers are very receptive to the idea of breastfeeding, but when not supported and encouraged by the staff around them, they may not have a successful breastfeeding experience. A great deal of responsibility then

lies in the hands of the healthcare team, and if that team is not knowledgeable about or positive toward breastfeeding, a new mother's needs are not met, often resulting in an unsuccessful breastfeeding experience. It is vital to a new mother's breastfeeding success for the maternity staff that surrounds her to be armed with breastfeeding knowledge and have a positive attitude toward the practice (McCreath et al., 2001).

Method of Data Collection

This research question was answered using a quantitative survey, which will be discussed in depth in Chapter III.

Nursing Administrators

Research Question #1

What do nursing administrators in Oklahoma hospitals know about the Baby-Friendly Hospital Initiative and how do they feel about implementation of the Initiative into their institution?

Objective #1

To determine if nursing administrators in Oklahoma hospitals are knowledgeable about the Baby-Friendly Hospital Initiative.

Objective #2

To determine if Oklahoma hospitals practice the Ten Steps to Successful Breastfeeding.

Research Question #2

What do nursing administrators see as barriers to implementing the Ten Steps the Successful Breastfeeding in Oklahoma hospitals?

Objective

To determine the perceived barriers to implementation of the Ten Steps to Successful Breastfeeding into Oklahoma hospitals.

Justification

The success of breastfeeding in an institution is not only the responsibility of the maternity staff that has direct contact with new mothers. The entire healthcare system, including the administrative staff, must make a collaborative effort to promote and facilitate breastfeeding. Becoming a Baby-Friendly institution requires planning, implementing, and sustaining changes to traditional mindsets within an institution; all departments, including administration, must be willing to work together to implement the Ten Steps to Successful Breastfeeding that are key to being Baby - Friendly (Philipp et al., 2001). Management within an institution must support and facilitate a breastfeeding culture in order to demonstrate to all personnel that they too are positive towards breastfeeding, and, as a result, help to assist in the success of their institution's breastfeeding programs (WHO/UNICEF, 1990; Philipp et al., 2001). In order to promote a breastfeeding culture, managers must first be aware of their institutions are doing in terms of breastfeeding - both practices that aid in breastfeeding success, as well as practices that hinder breastfeeding success (WHO/UNICEF, 1990).

Method of Data Collection

These research questions were answered using qualitative, face-to-face interviews, which will be discussed in depth in Chapter III.

Hospital Administrators

Research Question

What do hospital administrators know about the Baby – Friendly Hospital Initiative and do they feel implementation of all Ten Steps to Successful Breastfeeding into their institution is possible and reasonable?

Hypothesis #1

Hospital administrators do not know about the Baby – Friendly Hospital Initiative.

Hypothesis #2

Hospital administrators do not know if their institution practices the Ten Steps to Successful Breastfeeding.

Hypothesis #3

Hospital administrators feel that for their institution to purchase all of its own formula is unreasonable.

Justification

In addition to the justification for administrators to be knowledgeable about and to promote their institution's breastfeeding practices given in the previous section, this component also examines the feasibility, from an administrator's point-of-view, for an

institution to purchase all of its formula and refrain from receiving any kind of formula rebates from the formula companies, which is a stipulation in becoming a designated Baby – Friendly Hospital (Baby-Friendly USA, 2004a, n.p.). Convincing administrators to begin purchasing an item they had previously been receiving at a free or reduced price from formula companies is a huge barrier to an institution gaining the Baby-Friendly designation (Merewoood & Philipp, 2000).

Method of Data Collection

This research question was answered using quantitative telephone and mail-out surveys, which will be discussed in depth in Chapter III.

Summary

The following chapters will elaborate on the BFHI and its role in breastfeeding initiation and success, the methods used to answer each of the aforementioned research questions, and the results of the study. The final chapter will provide a discussion of the results and how they did or did not answer the research questions for the study, as well as how these results can influence current breastfeeding practices in Oklahoma hospitals and be used in the professional setting.

CHAPTER II

REVIEW OF LITERATURE

This chapter will provide a comprehensive review of literature encompassing the following topics: breastfeeding history, current breastfeeding rates, policies of different international, governmental, and professional organizations, the components of the Baby – Friendly Hospital Initiative, and the role of the health care professional in breastfeeding initiation and success. A short summary of the topics discussed will conclude the chapter.

Breastfeeding History

In the mid-1900s, women did not choose to breastfeed because it was not promoted by physicians, and an entire generation that did not view breastfeeding as the norm was born (American Academy of Family Physicians, 2004, n.p.). Breastfeeding rates began to decrease in the U.S. in the first half of the 1900s, and by 1972, only 22% of women were breastfeeding (Wright, 2001). However, over the next 10 years breastfeeding rates began to increase again, almost two-fold, possibly due in part to a movement that began in the 1960s promoting practices that were more conducive to breastfeeding initiation and success, such as feeding on demand, rooming-in, and putting an infant to the breast immediately after delivery. The La Leche League was also

formed in the 1960s, and during the 1960s and 1970s more women were attending prenatal classes and health care professionals began to distribute breastfeeding information (Wright, 2001). Today, breastfeeding rates are still increasing, but breast and bottle feeding remain equal in the minds of physicians, just a difference in lifestyle choice (American Academy of Family Physicians, 2004, n.p.).

Changes in routine hospital practices and lactation management, similar to those outlined in the BFHI, were instrumental in the rise of breastfeeding rates (Wright, 2001). International increases in breastfeeding rates corresponded with international efforts to increase breastfeeding; however, since efforts such as the BFHI were not implemented in the U.S. until the mid-1990s, it is unlikely that the rise in breastfeeding rates in the U.S. during the 1970s can be attributed to international efforts. Recent increases, though, could be due in part to implementation of the BFHI in the U.S. (Wright, 2001).

Current Breastfeeding Rates

In the third quarter of 2001, three breastfeeding questions were added to the National Immunization Survey (NIS) (Li, Zhao, Mokdad, Barker, & Grummer-Strawn, 2003). Respondents were asked if their child had ever been breastfed, was breastfed exclusively from birth to six months, and was breastfed at all from birth to 12 months. Over the past decade, breastfeeding initiation rates have increased from 54% to 65%, breastfeeding at all at six months has increased from 22% to 27%, and breastfeeding at all at 12 months has increased from 9% to 12%. The largest decrease in *any* breastfeeding occurred between two and three months, possibly due to mothers returning to work in an

environment that did not support breastfeeding. The largest decrease in *exclusive* breastfeeding occurred between three and four months, because mothers may at this point, believe that their milk supply is no longer providing adequate nutrition for their infant (Li et al., 2003). In addition, the drop at three months could be attributed to most U.S. adults' belief that infants should be fed cereal or baby food at three months (Li, Ogden, Ballew, Gillespie, & Grummer-Strawn, 2002). The breastfeeding questions were piloted to 13% of the respondents to the 2001 NIS, but as of January of 2003, these questions are being asked of all participants (CDC, 2004a, n.p.).

The breastfeeding goals of Healthy People 2010 are as follows: to increase the number of mothers who initiate breastfeeding from 64% in 1998 to 75% in 2010, to increase the number of mothers who are breastfeeding at six months from 29% in 1998 to 50% in 2010, and to increase the number of mothers who are breastfeeding at 12 months from 16% in 1998 to 25% in 2010 (CDC, 2000, n.p.). The 2003 NIS results included geographically specific rates and compared its results to the Healthy People 2010 goals. The study found that 14 states have reached the goal of 75% of mothers initiating breastfeeding, six states have reached the goal of 50% of mothers breastfeeding at 6 months, and eight states have reached the goal of 25% of mothers breastfeeding at 12 months. Hawaii, Idaho, Oregon, Utah, Vermont, and Washington were the only states to have reached all of the goals of Healthy People 2010 (CDC, 2004a, n.p.). Oklahoma has far to go in order to reach the goals of Healthy People 2010, as only 61.6% of children are ever breastfed, 25.2% are breastfed at six months, and 9% are breastfed at 12 months (CDC, 2004c, n.p.).

Demographics of Breastfeeding Mothers

Traditionally, white women have been the most likely demographic to initiate breastfeeding (Wright, 2001). In addition, the Third National Health and Nutrition Examination Survey (NHANES III) found that mothers who had graduated from college, in families whose head of household had graduated from college, and in families whose income was greater than 350% of the poverty level were the only demographic to have reached the Healthy People 2010 goal of 75% of mothers initiating breastfeeding (Li et al., 2002). Women who are less educated, have lower incomes, are African American, or are WIC participants have traditionally been the least likely to breastfeed.

Breastfeeding Policies

Currently, efforts are being made by a number of international organizations, government agencies, and professional organizations to increase breastfeeding initiation and success rates. These efforts will be discussed in the following sections.

International Efforts

The WHO and the United Nations Children's Fund (UNICEF) made the Innocenti Declaration on the Protection, Promotion, and Support of Breastfeeding in 1990 (WHO/UNICEF, 1990). The purpose of the statement was to set forth global goals aimed to increase breastfeeding initiation and success rates. According to the Innocenti Declaration, women should be empowered to breastfeed their infants exclusively for four to six months and continue breastfeeding with complementary foods for at least two

years. They should be enabled by creation of a "breastfeeding culture" and advocacy of that culture by leaders of society. Furthermore, protection and promotion of breastfeeding includes eliminating breastfeeding barriers within the healthcare system. The Innocenti Declaration set a goal of implementation of the Ten Steps to Successful Breastfeeding (see pages 17-18) in all institutions by 1995. Finally, the Declaration asked governments to develop national policies to protect and promote breastfeeding that could be woven into all systems responsible for prenatal and perinatal care and for healthcare professionals to be trained in implementation of these policies (WHO/UNICEF, 1990).

U.S Efforts

Currently the Centers for Disease Control (CDC) is conducting research to determine if there is a relationship between a mother's breastfeeding initiation experience in the hospital and her decision to continue breastfeeding (CDC, 2002, n.p.). To do this, they are analyzing the Ten Steps to Successful Breastfeeding (see pages 17-18) from the BFHI, as well as examining data from a longitudinal survey of infant feeding practices. Furthermore, they are using the same infant feeding practices survey to determine the association between health professionals' attitudes regarding breastfeeding and a mother's choice to continue breastfeeding. They want to determine if the attitudes expressed by health professionals influences a mother's choice and ability to breastfeed for at least six weeks (CDC, 2002, n.p.).

The Health Resource's Services Administration's Maternal and Child Health Bureau (MCHB), a division of the Department of Health and Human Services, is

responsible for improving and promoting the health of mothers and children in the United States (CDC, 2003, n.p.). The MCHB funds breastfeeding training, services, and research, as well as produces literature for state program administrators to use. Currently, the MCHB is involved in numerous activities to help promote and support breastfeeding, including training pediatricians to support breastfeeding and partnering with the United States Department of Agriculture (USDA) to develop continuing breastfeeding education programs for various professional organizations (CDC, 2003, n.p.).

The Department of Health and Human Services Office on Women's Health released the HHS Blueprint for Action on Breastfeeding in 2000 (Satcher, 2001). The HHS Blueprint states that all healthcare professionals in a field related to maternal and child services should be extensively trained in not only breastfeeding in general, but also in lactation counseling and management. This education should be included in the medical professional's coursework, in clinical and in-service training, and in continuing education throughout their medical career. Mothers should have access to accurate and current information comprehensively and consistently conveyed by the entire medical team, including physicians, nurses, lactation consultants, and dieticians. Not only should this information be accurate, it should also be culturally sensitive. The HHS Blueprint states that all institutions providing maternity services should adopt practices that promote and support breastfeeding, such as the Ten Steps to Successful Breastfeeding (see pages 17-18). It is also important that mothers, their significant others, and other family members be educated about breastfeeding during both prenatal and postnatal appointments (Satcher, 2001). See Appendix III for the HHS Blueprint's flowchart of practices that promote or deter successful breastfeeding.

Traditionally, breastfeeding rates among WIC participants (Special Supplemental Nutrition Program for Women, Infants, and Children) are low (Wright, 2001). Nationally, 70.9 % of women have ever breastfed, 36.2% of women are still breastfeeding at six months, and 17.2 % of women are breastfeeding at 12 months (CDC, 2004c, n.p.). For WIC participants, these numbers are 64.2%, 28.5%, and 13.5% respectively (CDC, 2004b, n.p.). In Oklahoma, WIC participants have a slightly higher initiation rate at 66%, but the rates at six months and twelve months postpartum are lower than the national average, 23.1% and 6.7% respectively (WIC 3rd Quarter Report, 2004). WIC does, however, have a long legislative history that advocates breastfeeding (USDA: FNS, 2003b, n.p.), and federal requirements mandate certain practices that promote and support breastfeeding, including creating a breastfeeding culture within clinics and ensuring that women have access to breastfeeding advocacy materials both pre and postnatally (USDA: FNS, 2003a, n.p.).

The American Academy of Pediatrics breastfeeding policy

The American Academy of Pediatrics (AAP) policy on breastfeeding is as follows:

> "Human milk is uniquely superior for infant feeding and is species-specific; all substitute feeding options differ markedly from it. The breastfed infant is the reference or normative model against which all alternative feeding methods must be measured with regard to growth, health, development, and all other short and long term outcomes"
>
> (AAP, 1997, p.1035)

The AAP recommends that a mother breastfeed exclusively for six months, with the introduction of appropriate complementary foods at that time, and continue to breastfeed until the infant is at least 12 months. Breastfeeding is not only beneficial to mother and infant, but it also beneficial to the economy because it can reduce health care costs. Breastfeeding reduces the prevalence of common infant health problems, such as ear infections and diarrhea. In addition, breastfeeding results in a reduction in employee time off because parents have to miss less work to take care of their sick children. Since the choice of infant feeding method is ultimately the mother's, the health care community should be informed about and have accurate information concerning breastfeeding to ensure that the mother's decision is an informed one (AAP, 1997).

The American Dietetic Association breastfeeding policy

The American Dietetic Association's (ADA) breastfeeding policy reads as follows:

> "Exclusive breastfeeding for six months and breastfeeding with complementary foods for at least 12 months is the ideal feeding pattern for infants. Increases in initiation and duration are needed to realize the health, nutritional, immunological, psychological, economical, and environmental benefits of breastfeeding."
>
> (ADA, 2001, p. 1213)

They feel that obstacles to breastfeeding should be overcome, and nutrition professionals should "support breastfeeding through appropriate education and training, advocacy, and

legislative action; through collaboration with other professional groups; and through research to eliminate barriers to breastfeeding" (ADA, 2001, p. 1213).

Other professional organizations

In addition to being perhaps the most frequently referenced breastfeeding policy in literature, the AAP breastfeeding policy is also used as a model for many other professional organizations' policies on breastfeeding. However, many organizations have other breastfeeding policies that are uniquely theirs. The following sections will discuss some of these organizations and their policies.

The Association of Women's Health, Obstetrics, and Neonatal Nurses (AWHONN)

AWHONN believes that all members of the healthcare team should not only provide new mothers with accurate breastfeeding information, but also that they should do so in a culturally-sensitive manner (AWHONN, 1999, n.p.). Furthermore, AWHONN recommends that nurses who are involved with women and children are able to counsel mothers in appropriate lactation management, to provide accurate and complete breastfeeding information, to discuss the mother's anxieties, and to demystify breastfeeding myths. They recommend that nurses actively advocate rooming-in and immediate breastfeeding initiation following delivery, provide new mothers with information on breastfeeding resources within the community upon discharge, participate in continuing breastfeeding education, and participate in breastfeeding research. Their position is as follows:

> "Nurses are frequently the sole providers available to assist and support with the initiation of breastfeeding. It is therefore critical that nurses are well-prepared to support a woman in her decision to breastfeed as well as to assist women in overcoming assumptions that breastfeeding is not an option."
>
> (AWHONN, 1999, n.p.)

The American College of Obstetrics and Gynecologists (ACOG)

ACOG specifically mentions the goals of Healthy People 2010 in their breastfeeding policy, and their breastfeeding goals coincide with those goals (ACOG, 2000, n.p.). ACOG feels that a huge barrier to dissemination of adequate breastfeeding education and instruction is the shortened length of stay after giving birth. They recommend supportive breastfeeding practices like those specifically mentioned in the Ten Steps to Successful Breastfeeding (see pages 17-18) in an attempt to counteract this barrier. Another barrier to breastfeeding success is the gift packages from formula companies, and ACOG is against their distribution (ACOG, 2000, n.p.).

The National Association of Pediatric Nurse Practitioners (NAPNAP)

NAPNAP believes that pediatric nurse practitioners (PNPs) are responsible for providing accurate and current breastfeeding information to both mothers and their families, allowing them to make an informed decision (NAPNAP, 2001, n.p.). PNPs should advocate the adoption of policies that promote and support breastfeeding and should be able to help new mothers overcome barriers to breastfeeding and to provide them with assistance, both information and hands-on. PNP education programs should

provide accurate lactation management education, and PNPs should participate in continuing breastfeeding education. NAPNAP encourages its members to be advocates of breastfeeding at all levels and to assist in the creation of policies that "promote and support breastfeeding and remove barriers to breastfeeding" (NAPNAP, 2001, n.p.) They also expect their members to assist their institutions in implementation of practices such as those specifically mentioned in the BFHI in an attempt to achieve the Healthy People 2010 goals and to be a source of breastfeeding education to other members of the healthcare team (NAPNAP, 2001, n.p.).

The Baby-Friendly Hospital Initiative

The BFHI is a proposal by WHO/UNICEF to modify common hospital routines that hinder breastfeeding initiation and success. The practices outlined in the BFHI are known as the Ten Steps to Successful Breastfeeding and are a minimum for being designated "Baby-Friendly" (WHO/UNICEF, 1990). They are as follows:

1. Have a written breastfeeding policy that is routinely communicated to all health care staff.
2. Train all health care staff in skills necessary to implement this policy.
3. Inform all pregnant women about the benefits and management of breastfeeding.
4. Help mothers initiate breastfeeding within half an hour of birth.
5. Show mothers how to breastfeed, and how to maintain lactation even if they should be separated from their infants.
6. Give newborn infants no food or drink other than breast milk, unless medically indicated.

7. Practice rooming-in - that is, allow mothers and infants to remain together - 24 hours a day.
8. Encourage breastfeeding on demand.
9. Give no artificial teats or pacifiers (also called dummies or soothers) to breastfeeding infants.
10. Foster the establishment of breastfeeding support groups and refer mothers to them on discharge from the hospital or clinic.

The Ten Steps are designed to spotlight health care routines that focus primarily on mothers and infants (WHO/UNICEF, 1990).

The BFHI operates under the assumption that intervention can make positive changes in breastfeeding behaviors of new mothers. The practices outlined in the BFHI can alleviate common breastfeeding problems by identifying those problems early, changing routine practices that obstruct breastfeeding initiation and success, and focusing on mother-baby care (WHO/UNICEF, 1990). Execution of the practices outlined in the BFHI have been shown to increase breastfeeding rates in all ethnic and sociodemographic groups, especially those groups who have traditionally been the least likely to breastfeed, such as African Americans and mothers who have Medicaid or no health insurance (Philipp et al., 2001). Other successes of the BFHI include the fact that over 1 million health care professionals worldwide have been trained in Baby-Friendly practices, in Nicaragua breastfeeding rates increased from 47% to almost 100% in 1999 after implementing the Ten Steps, and after implementation of the Ten Steps in Poland in 1995, rooming in rates rose from 19% to 60% in 1998 and supplementation rates fell from 54% in 1988 to 22% in 1998 (Baby-Friendly USA, 2004a, n.p.).

The purpose of the Initiative is to highlight the important role that the health care system plays in breastfeeding initiation and success, as well as to describe what should be

done within that system to ensure that mothers are receiving the appropriate information and support (WHO/UNICEF, 1990). Becoming a Baby-Friendly hospital brings with it considerable benefits, including quality improvement and cost containment, increased breastfeeding rates resulting in a decrease in health care costs for both mother and infant, and public relations and marketing strategies that can bring prestige to an institution (Baby-Friendly USA, 2004b, n.p.).

Implementation of the practices outlined in the BFHI increases the initiation, duration, and exclusivity of breastfeeding (Cattaneo & Buzzetti, 2001; DiGarolamo, Grummer-Strawn, & Fein, 2001; Kramer et al., 2001). In the U.S., a notable study supporting the Ten Steps was conducted at Boston Medical Center (BMC). BMC became Baby-Friendly with the creation of a task force that was led by two pediatricians and a pediatric nurse administrator (Philipp et al., 2001). Lactation consultants and pediatric nurse educators worked together to provide the nursing staff with extensive training, including competencies in Baby-Friendly practices for both pediatric and obstetric nurses. Between the years of 1995 and 1999 initiation rates increased by 1/3 and exclusivity rates increased six fold at BMC (Philipp et al., 2001). These rates remain stable as they continued to comply with the Ten Steps (Philipp, Malone, Cimo, & Merewood, 2003). The BMC study highlights the importance of cooperation between the entire health care team in an institution.

To become Baby-Friendly, an institution must be dedicated to planning, implementing, and sustaining a change of mindsets within that institution. Departments must be willing to work together to practice the Ten Steps and provide the best care possible for mother and infant (Philipp et al., 2001). The Ten Steps and Baby-Friendly

designation must be supported by knowledgeable personnel that enable new mothers to make choices and increase their confidence in themselves, thereby increasing their competence after discharge (Saadeh & Akre, 1996). Intensive training, however, is needed for personnel in order for the Ten Steps to be successful, as seen in a study by Cattaneo & Buzzetti (2001) where the staff underwent an intensive 18 hour training session that highlighted the WHO/UNICEF information on the BFHI. The training resulted in an improvement in compliance from one to three steps before the training to six to ten steps following the training (Cattaneo & Buzzetti, 2001). In addition to providing new mothers with knowledge during their hospital stay, health care professionals must also be able refer patients to support groups upon discharge, as information provided at these support groups is an important avenue of information for new mothers (WHO/UNICEF, 1990). It is also important for the management in an institution to be supportive of their institution's breastfeeding program (Philipp et al., 2001). The important role that the health care professional plays in the success of a new mother and the importance of their training will be discussed in depth in the next section; however, in addition to the role of the health care team, there is literature supporting *some*, though not all, specifics of the Initiative, which will be presented now.

Initiate breastfeeding within a half an hour of birth

Putting an infant to the breast immediately following delivery is key to increasing breastfeeding initiation and success rates (Kuan, Britto, Decolongon, Schoettker, Atherton, & Kotagal, 1999; Moxley & Kennedy, 1994). When they mother and infant experience early contact the total duration of breastfeeding is increased by 50% (Kuan et

al., 1999). In one study, infants who were put to the breast immediately crawled toward the breast, began rooting, and were sucking at the breast within 50 minutes after birth. Furthermore, those infants who had immediate contact with their mother showed proper sucking techniques in comparison with their counterparts who were not allowed close, unhindered contact for the first hour after birth (Righard & Alade, 1990). It is important to initiate breastfeeding as soon as possible following delivery in order to reduce the risk of early termination of lactation (DiGarolamo et al., 2001).

Rooming-in and breastfeeding on demand

After delivery new mothers must have unrestricted contact with their infants (WHO/UNICEF, 1990) because it promotes breastfeeding on demand (Moxley & Kennedy, 1994). It is vital that breastfeeding on demand be encouraged and practices that promote it be implemented (WHO/UNICEF, 1990). Infants who are breastfeeding must be able to eat on demand, as opposed to strict feeding schedules. Furthermore, time limits should not be imposed on breastfeeding infants, and they should be allowed to suck freely during feedings (WHO/UNICEF, 1990). Mothers who are allowed and encouraged to room-in are less likely to cease breastfeeding at any time compared with their counterparts who did not practice rooming-in (Scott, Landers, Hughes, & Binns, 2001). Rooming-in is also beneficial to the health care team, as it allows more time for the staff to attend to other responsibilities (WHO/UNICEF, 1990). Rooming-in should be viewed as a significant benefit, by nurses especially, because they cite too little time in lieu of other responsibilities as a major barrier to providing new mothers with adequate breastfeeding education (Patton, Beaman, Csar, & Lewinski, 1996).

Supplementation and bottle feeding

Supplementary feedings is also a risk factor for early cessation of breastfeeding (Blomquist, Jonsbo, Serenius, & Persson, 1994; DiGarolamo et al., 2001). In a study of Swiss hospitals, for example, supplementation in the hospital increased the likelihood of not breastfeeding at 3 months by four fold (Blomquist et al., 1994). Formula supplementation sends new mothers mixed messages about their milk supply and may decrease their self-confidence (Obermeyer & Castle, 1996; WHO/UNICEF, 1990). Furthermore, artificial nipples may reduce an infant's ability to suck or cause them to suck using incorrect techniques, reducing a new mother's lactation stimulus (Righard, 1998; WHO/UNICEF, 1990). Bottle feeding can lead to "nipple confusion" for some infants, and some actually reject the breast after having been introduced to a bottle, possibly due to their inability to now latch on (Moxley & Kennedy, 1994). Introduction of bottle feeding during a new mothers' maternity stay is a possible explanation for decreased breastfeeding (WHO/UNICEF, 1990), as supplementation and artificial teats not only have the aforementioned affects on the infant, but they can also decrease a new mother's self-confidence in her ability to breastfeed (WHO, 1998).

Pacifiers

Mothers should be counseled to refrain from using pacifiers or use them infrequently to avoid breastfeeding problems (Righard, 1998). They should be informed that switching between pacifiers and the breast confuses an infant's oral motor response (WHO/UNICEF, 1990). The duration of breastfeeding, frequency of feeds, and increases in breastfeeding problems have all been correlated with pacifier use (Howard CR,

Howard FM, Lanphear, deBlieck, Eberly, & Lawrence, 1999). Pacifier use at two weeks is associated with a decreased probability of breastfeeding at six months (Binns & Scott, 2002b). Furthermore, infants who suck on pacifiers for a majority of the day, as well as before bedtime, increase their chance of cessation of breastfeeding by six months by four fold compared to infants who do not use pacifiers (Victora, Behague, Barros, Olinto, & Weiderpass, 1997). In addition to a decreased duration of breastfeeding, pacifier users also feed fewer times per day (Binns & Scott, 2002b; Victora et al., 1997). As with artificial nipples or bottles, pacifier use also leads to common breastfeeding problems, including nipple confusion and flawed sucking technique (Righard, 1998). Also, like bottle nipples, pacifiers also decrease sucking strength and duration, which decreases the mother's milk supply due to a decreased lactation stimulus (Saadeh & Akre, 1996).

Many mothers do not perceive pacifier use as a negative practice that hinders breastfeeding, and many strongly support the use of pacifiers by their infants. They use pacifiers to wean their infant or to increase the duration between feedings (Victora et al., 1997). If mothers chose to introduce a pacifier into their infant's routine, they should be advised to do so after six weeks of breastfeeding and encouraged not to use them on a regular basis (Binns & Scott, 2002b). Mothers must be empowered to solve the problems they face while breastfeeding and address their own concerns in order to effectively eliminate pacifier use (Victora et al., 1997).

The practice of purchasing formula

An institution must purchase their own formula and may not receive any free or reduced priced formula in order to be designated Baby-Friendly (Baby-Friendly USA,

2004a, n.p.). Persuading them to buy a product they regularly receive free from the manufacturer is a huge barrier to becoming Baby-Friendly (Merewood & Philipp, 2000). However, removing formula from maternity facilities has been proven to be one of the most cost-effective health interventions, as removal of formula promotes breastfeeding (WHO, 1998). BMC dealt with this barrier, and their administration decided that the formula issue was not a large enough obstacle to deter receiving the designation (Philipp et al., 2001). Advocates who present administrators with data supporting the breastfeeding goals they have already accomplished will have more success in getting the administrators to consider why the institution should purchase its own formula (Merewood & Philipp, 2000). In addition to purchasing formula, it is also important for an institution to make certain that discharge packs with breastfeeding barriers, such as formula samples or coupons for free or reduced formula, bottles, or pacifiers, are not being disseminated to its patients (WHO/UNICEF, 1990).

The Role of the Health Care Professional

The knowledge and attitudes of all the health professionals who surround a new mother following delivery impact the mother's decision to breastfeed, her initiation of breastfeeding, and her success at breastfeeding also (WHO/UNICEF, 1990; Wright, 2001). The period following delivery is when new mothers spend the most time with the health professionals around them. During this period a hospital's practices and the health care providers in that hospital have the greatest impact on not only a new mother's attitude toward breastfeeding, but also her view of her own ability to breastfeed

(WHO/UNICEF, 1990). Furthermore, a lack of support from the health care team during this period could result in a new mother choosing not to breastfeed (Patton et al., 1996) because the attitudes of the health care team are associated with a new mother's decision to breastfeed – more positive attitudes result in the decision to breastfeed (Ragan, 1993). Her decision is also influenced by her own self confidence, which can also be increased by encouragement and support from the healthcare team (Lu, Lange, Slusser, Hamilton, & Halfon, 2001).

Not only are support and positive attitudes from the health care team important in a new mother's decision to breastfeed, but the ability of the health care team to provide accurate and consistent advice is also vital (Rossiter & Yam, 2000). Mothers often feel that they receive conflicting information from different members of the healthcare team. When new mothers get conflicting or inconsistent information, their self confidence is decreased (Moxley & Kennedy, 1994). As stated previously, when a new mother lacks confidence in her ability to breastfeed, it decreases the chances of her choosing to breastfeed (Lu et al., 2001).

Encouragement from the medical community is linked to a new mother's decision to breastfeed (WHO/UNICEF, 1990), but 27% of women are never encouraged to breastfeed by their doctors or nurses, either pre or postnatally (Lu et al., 2001). In a study by Lu et al. (2001), women who received encouragement from health care professionals were four times more likely to breastfeed than those received no encouragement. Furthermore, encouragement from doctors and nurses increased the number of young, less educated, low-income women who chose to breastfeed by three-fold, the number of black women who chose to breastfeed by five-fold, and the number of single women who

chose to breastfeed by eleven-fold (Lu et al., 2001). This is important because these high-risk groups have traditionally been the least likely to breastfeed (Wright, 2001). In a study by Kuan et al. (1999), most women surveyed rated their breastfeeding experience while in the hospital as good, however, only half of those women rated the encouragement and support they received from the hospital staff as good. The women in the same study who spoke with nurses and lactation consultants about breastfeeding found it helpful, however, less than half of the women surveyed actually spoke with a lactation consultant. The ability of medical professionals to provide active support and encouragement to new mothers may be hindered by a lack of staff and the shortened length of stay for most mothers (Kuan et al., 1999). Medical staff can be highly influential in a mother's decision to breast feed, so it is vital that they make a concerted effort to interact with a new mother to have a positive influence on her breastfeeding decision (WHO/UNICEF, 1990).

Support for new mothers who are having breastfeeding difficulties is also imperative to breastfeeding success (Binns & Scott, 2002a). Most problems can be resolved with the ongoing support of the health care team. However, when the health care team is not adequately trained in lactation management or is unaware of what contributes to breastfeeding success, it is difficult for them to provide the appropriate support when problems arise (WHO/UNICEF, 1990). Many medical professionals may be supportive of breastfeeding itself, but they do not know how to handle breastfeeding problems and implement appropriate interventions (Schanler, O'Connor, & Lawrence, 1999). When not equipped with adequate knowledge to solve breastfeeding problems, health care professionals are more likely to turn to milk substitutes as opposed to

implementing strategies to maintain lactation (Freed, Clark, Sorenson, Lohr, Cefalo, & Curtis, 1995).

Breastfeeding problems should be anticipated in order to have positive outcomes. Most women do not anticipate having breastfeeding problems, yet almost all women actually face problems (Binns & Scott, 2002a). These idealistic expectations have a greater impact on breastfeeding success than do the actual breastfeeding problems. These expectations, in part, can be attributed to health care professionals focusing primarily on the benefit of breastfeeding and never discussing the problems that may arise. This leads to mothers having unrealistic pictures of what breastfeeding will actually be like. Medical professionals not only need to have adequate knowledge to deal with breastfeeding problems, but they also should inform their patients about the difficulties that can arise (Binns & Scott, 2002a).

Medical professionals are often not aware of the impact that certain hospital procedures can have on breastfeeding initiation and success (WHO/UNICEF, 1990). Furthermore, medical literature is often inaccurate and inconsistent in reporting breastfeeding information (Moxley & Kennedy, 1994). The training that is received by many medical professionals may indicate bottle feeding as an adequate substitute for breastfeeding because bottle feeding can easily be taught to new mothers (WHO/UNICEF, 1990). It is important to correct this type of thinking through training, both in medical curricula as well as continuing education programs, because the professionals around a new mother and the actions they take have a huge influence on that mother's decision to breastfeed (Rossiter & Yam, 2000). The following sections will discuss specific health care professionals and their influence on new mothers.

Nurses

Though nurses are the most influential member of the health care team in supporting new mothers in their decision to breastfeed, they are often not well-informed about breastfeeding (Freed, Clark, Harris, & Lowdermilk, 1996). Because they are so influential, nurses should accept the duty of assisting new mothers with breastfeeding initiation (Bernaix, 2000). The amount of education and the nurse's own experiences predict her attitude towards breastfeeding, as well as her behaviors that support it (Bernaix, 2000; Patton et al., 1996). It is important that nurses are equipped with accurate and complete information about breastfeeding, since their knowledge does predict what supportive behaviors they will or will not exhibit. In addition, while adequate knowledge is indicative of encouraging behavior and positive attitudes, a nurse's *intention* to provide breastfeeding support to new mothers is predicted by her attitude (Bernaix, 2000). Without the essential support from the maternity nurses, new mothers may question their infant feeding choices, so the nursing staff should provide adequate support and correct advice (Patton et al., 1996).

Nursing curricula are not preparing nursing students for their role in breastfeeding promotion (Freed et al., 1996). Nurses should learn to teach new mothers about breastfeeding throughout her pregnancy and after delivery, such as discussing infant feeding choices before delivery, teaching correct breastfeeding techniques following delivery, and advising them about common breastfeeding problems if they occur. In a study by Freed et al. (1996), the nursing students that had already finished their maternity rotations were no better at dealing with breastfeeding problems appropriately than their counterparts who had not finished their maternity rotations. In the same study, nursing

students themselves reported that they only received breastfeeding information from lectures as opposed to receiving practical experience (Freed et al., 1996). It is important that nursing curricula include not only classroom breastfeeding instruction, but also clinical breastfeeding management experience during maternity rotations (Register, Eren, Lowdermilk, Hammond, & Tully, 2000).

It is important for nurses to receive accurate information because they rely on their own knowledge when providing guidance and support (Bernaix, 2000), but studies show that they do not receive the clinical instruction they need to teach breastfeeding techniques (Chui, Gau, Kuo, & Chung, 2003; Freed et al., 1996). Many nursing students never observe a breastfeeding mother during their maternity rotations (Freed et al., 1996), but successful mothers report having had a nurse observe them (Kuan et al., 1999). Few nurses know that bottle supplementation is a reason for a new mother to experience failure while breastfeeding (Freed et al., 1996). In addition, nursing students are not able to identify feeding cues from the baby, do not communicate the appropriate maternal posture, cannot identify proper latch on techniques, and cannot assist in correct removal of a baby from the mother's breast (Chui et al., 2003). Undergraduate programs should include this type of practical education to help eliminate the common mistakes made that may impair breastfeeding success (Patton et al., 1996). Nursing curricula and continuing education alike should focus on providing accurate and consistent education to maternity nurses (Bernaix, 2000). Not only is it important to identify knowledge gaps, but it is also important to identifying personal biases that might also impair breastfeeding success (Patton et al., 1996).

Nurses themselves feel that it is their duty to promote and support breastfeeding, including educating mothers about the benefits of breastfeeding, assisting them with breastfeeding, and providing adequate discharge education and follow up (Freed et al., 1996). Though nurses feel it is their responsibility, they have certain perceived barriers to fulfilling that responsibility, including the shortened lengths of stay, lack of knowledge by nursing staff, paperwork, and fulfilling other duties. They feel that providing adequate hands on training to new mothers is too time consuming in lieu of other duties they must also accomplish (Patton et al., 1996). In spite of their own perceived lack of knowledge, most nurses feel their nursing curricula adequately prepared them to support breastfeeding mothers (Freed et al., 1996), though they cite articles, observation of other nurses, observation of breastfeeding mothers, and their own personal experiences as their major sources of breastfeeding knowledge (Patton et al., 1996). Most are confident that they are able to provide appropriate information and guidance to new mothers, but are unlikely to go to a lactation consultant or more experienced maternity nurse when problems arise. They feel their own knowledge base is adequate; however, they often provide mothers with incorrect advice. A lack of knowledge paired with a false sense of self confidence is catastrophic to breastfeeding promotion (Freed et al., 1996).

Nurses should be equipped with the appropriate knowledge, but they also must know how their hospital is doing compared to national rates and goals (Patton et al., 1996). They should be given updates about their success in order to keep morale up and reinforce the importance of supportive practices and adequate education (Patton et al., 1996). In order to reach the Healthy People 2010 goals, unsupportive attitudes must be identified and rectified via education (Patton et al., 1996).

Physicians

It is the policy of the AAP that pediatricians should support hospital policies and practices that promote breastfeeding, should work in conjunction with the obstetric community and the health care team to ensure that women receive accurate and current information and adequate breastfeeding support, should know what community resources are available for breastfeeding women, and should advocate breastfeeding education during medical residency (AAP, 1997). Many physicians' attitudes toward breastfeeding have remained unchanged (Schanler et al., 1999), presenting a huge obstacle to breastfeeding success (Freed et al., 1995). For example, many pediatricians believe that breastfeeding and formula feeding are not only equivalent feeding practices, but also that there is no marked nutritional difference between breast milk and formula (Schanler et al., 1999). Physicians should have accurate knowledge that they routinely communicate to new mothers, enabling them to make educated decisions and adequately manage breastfeeding problems (Howard, Schaffer, & Lawrence, 1997).

Physicians have a huge influence on a new mother's decision to breastfeed, yet they are not provided with adequate lactation management information during their academic careers (Freed et al., 1995). Physicians who have had breastfeeding education have more patients breastfeeding than those who have not, and they are more confident in their own ability to help new mothers solve breastfeeding problems (Schanler et al., 1999). Breastfeeding information in pediatric textbooks, when even present, is often neither accurate nor consistent. This should be addressed to ensure that physician's knowledge is adequate to counsel new mothers (Philipp, Merewood, Gerandas, & Bauchner, 2004). Furthermore, physicians should know what effects the patient

education materials they distribute have on a mother's infant feeding choice. Biased pamphlets, such as those from formula companies, are barriers to breastfeeding success because they give the mother the misconception that their physician must advocate formula feeding if that is the information they are providing to her (Howard et al., 1997).

Physicians who believe in the immunological benefits of breastfeeding and those who feel they have adequate lactation management skills will typically encourage their patients to initiate and sustain breastfeeding (Burglehaus, Smith, Sheps, & Green, 1997). In a study by Schanler et al. (1999), pediatricians made recommendations about the length of breastfeeding, but most only recommended exclusive breastfeeding for one month and few recommended breastfeeding for one year. Many pediatricians recommended that their patients cease breastfeeding when common problems arose, such as breast or nipple issues. Most pediatricians are not aware of the WHO BFHI, nor do they know if their institution has applied for Baby-Friendly status. Less than half know if their institution has a written breastfeeding policy, less than half recommend an infant be put to the breast within a half an hour of birth, and half feel that rooming in is important. Most pediatricians recommend no other food or drink be offered to breastfeeding infants, but few make recommendations about pacifier use. Pediatricians should not only be armed with adequate breastfeeding knowledge, they should also be involved in the process of their institution becoming Baby-Friendly (Schanler et al., 1999).

Obstetricians

Many pediatricians feel that breastfeeding counseling should be done prenatally, yet very few see their patients prenatally, highlighting the importance of cooperation with

obstetricians who do see mothers prenatally (Schanler et al., 1999). Mothers who have thought about breastfeeding prenatally are more likely to initiate breastfeeding and continue to do so for at least six months (Scott et al., 2001). Forty percent of obstetricians surveyed in a study by Howard et al. (1997) felt that it was their responsibility to answer questions after the mother had given birth, 41% felt it was the pediatrician's responsibility, and 17% felt it was the responsibility of both. Obstetricians who accepted the responsibility were more likely to recognize the importance of prenatal counseling, were more likely to discuss infant feeding choices as part of prenatal care, were more likely to recommend breastfeeding, and were more likely to answer questions mothers had after delivery (Howard et al., 1997).

Few obstetricians have had breastfeeding training or acceptable infant nutrition education. As is the case with many health care professionals, obstetricians also receive inaccurate and inconsistent breastfeeding education, contributing to the contradictory information relayed to their patients (Howard et al., 1997). Though many discuss with and recommend breastfeeding to their patients, they also distribute patient education materials from formula companies and free formula samples and do not feel formula marketing influences a mothers decision to breastfeed. Lactation management should be included in obstetric curricula and in continuing education in order to increase the knowledge of obstetricians and debunk common misconceptions about practices that influence a mother's decision to breastfeed (Howard et al., 1997).

Administration

A breastfeeding culture should be adopted within institutions by promoting breastfeeding and having positive attitudes about breastfeeding. This is, in part, is the responsibility of the institution's administration (WHO/UNICEF, 1990). Managers should promote breastfeeding by establishing and facilitating practices that are conducive to it (Syler, Sarvela, Welshimer, & Anderson, 1997; WHO/UNICEF, 1990). In order to do this, they should identify those policies and practices in their facilities that do not promote, protect, and support breastfeeding. It is vital that administration ensures that their institution and the health care system are supportive and positive regarding a mother's decision to breastfeed (WHO/UNICEF, 1990). When policies that are supportive of breastfeeding are advocated by management, those policies are more likely to be carried out and supported by the entire system, especially nurses (Patton et al., 1996). Nursing managers in particular should be aware of the predictors of breastfeeding success. Not only is it important for them to be aware of the practices that support breastfeeding, it is important that they also be as adept at practicing these skills as their nurses to highlight the significance of these behaviors (Bernaix, 2000). By supporting implementation of the Ten Steps into their institution, administrators can effectively help to increase breastfeeding initiation and success rates (Syler et al., 1997).

Conclusions

Breastfeeding initiation and success rates can be increase significantly by implementing practices that promote and protect breastfeeding, such as those outlined in

the Ten Steps (WHO/UNICEF, 1990). Exclusive breastfeeding upon discharge is associated with certain steps, such as putting the infant to the breast immediately, rooming-in, and no pacifier use. This is significant because exclusive breastfeeding at discharge is associated with exclusive breastfeeding at three months and any breastfeeding at six months (Cattaneo & Buzzetti, 2001). Breastfeeding success will be accomplished when policies and training procedures are directed at implementation of all Steps (WHO, 1998). Monitoring and evaluation processes are also important. Continuous evaluation provides valuable data that can be used for certification and recertification of Baby-Friendly hospitals (Merten & Ckermann-Liebrich, 2004), as well as incentive for the staff – they need to know they are making a difference (Patton et al., 1996). Breastfeeding success rates are positively affected by BFHI practices and guidelines (Philipp et al., 2003). Well-defined policies and intensive training are needed to change the common routines in hospitals that do not protect and promote breastfeeding (WHO, 1998). Since breastfeeding is not always clear at discharge due to shortened lengths of stay, it is important for hospital routines to promote breastfeeding and education of new mothers during their stay so they are aware and confident in what they need to do to be successful at breastfeeding (WHO/UNICEF, 1990).

The health care system is vital to the protection, promotion, and support of breastfeeding (Li et al., 2003). Mothers need encouragement and support from the health care team, and the health care team must be adept at lactation management (ADA, 2001; Kuan et al., 1999). Health care professionals should work as a team to help promote breastfeeding amongst new mothers (Moxley & Kennedy, 1994). They should provide reliable information about breastfeeding management because they are looked to for

advice (ADA, 2001; Moxley & Kennedy, 1994). New mothers should have the opportunity to discuss infant feeding choices with the health care team, and they should be provided with accurate and consistent information to make an informed decision (Saadeh & Akre, 1996). They should be able to adequately answer questions that new mothers may have and help them identify common problems and appropriate solutions (WHO/UNICEF, 1990). Support and education is only helpful if it is based in sound knowledge, and it is important for medical curricula to supply that knowledge (Bernaix, 2000) in the form of general breastfeeding education and practical experience (Cattaneo & Buzzetti, 2001).

Though our nation has made significant strides toward meeting the goals of Healthy People 2010, there is still progress to make (Li et al., 2003). For example, NHANES III found that less than half of children begin life being exclusively breastfed, very few are being exclusively breastfed by two months, and even fewer are being exclusively breastfed by six months (Li et al., 2002). As mentioned previously, in Oklahoma, only 61.6% of children are ever breastfed, 25.2% of children are breastfed at all are breastfed exclusively at six months, and 9% of children are breastfed at all at 12 months (CDC, 2004a, n.p.). Identifying what practices in Oklahoma hospitals promote and protect and what practices hinder breastfeeding initiation and success, such as those outlined in the BFHI, is important in helping Oklahoma's breastfeeding rates approach the goals of Healthy People 2010.

CHAPTER III

METHODOLOGY

The sampling procedure and each of the collection methods for the three components of the study will be discussed in detail as outlined below:

- Sampling
- Quantitative survey
  - To assess maternity nurses' knowledge about breastfeeding
  - To assess maternity nurses' attitudes toward breastfeeding
- Qualitative, face-to-face interviews
  - To determine how much nursing administrators know about the BFHI
  - To determine what the perceived barriers are to implementation of the Ten Steps to Successful Breastfeeding in their institution
- Quantitative telephone and mail-out surveys
  - To asses how much hospital administrators know about the BFHI
  - To assess if they know if their institutions practice the Ten Steps to Successful Breastfeeding
  - To assess if they feel purchasing formula is possible and reasonable for their institution

This study's design and methods, informed consent, and scripts for contact with the participants were approved by the Institutional Review Board (IRB) at Oklahoma State University.

Sampling

The population studied was maternity nurses, nursing administrators, and hospital administrators in Oklahoma hospitals with maternity units or birthing centers. A sample from that population in facilities that had a relationship with the Oklahoma State University (OSU) Department of Nutritional Sciences (NSCI) via the Dietetic Internship (DI) program was drawn. To determine if these hospitals had maternity units or birthing centers, the researcher either looked at the hospital's website or called the facility. The sampling procedure was multi-stage. The first sampling frame was a list of 16 hospitals in Oklahoma that had a relationship with the OSU NSCI Department via the DI program.

For the quantitative surveys, four hospitals were selected from that list by the researcher, two urban and two rural. One urban hospital was selected in Oklahoma City, as well as one in Tulsa. For the rural hospitals, the institution furthest north and the institution furthest south was selected in an attempt to geographically cover as much of the state as possible. After the hospitals were selected, a theoretical list of all maternity nurses in those hospitals could be generated. Once the sampling frame was established, the researcher attempted to survey all maternity nurses in those hospitals. Approximately 200 surveys were distributed based on the number of maternity nurses each unit

coordinator stated they had when contacted by the researcher. The desired response rate was 40% or 80 respondents.

From the same list in the first sampling stage, 16 hospitals with maternity units, eight urban and eight rural, were selected. Once the hospitals were selected, a list of nursing administrators and hospital administrators could be generated. The researcher contacted the nursing administrators to set up times for and to conduct interviews. They also contacted hospital administrators via telephone or U.S. mail to arrange surveys. The desired response rate for both the interviews with nursing administrators and surveys with hospital administrators was 100%.

The sample was both convenience and purposive. It was convenient to sample from hospitals with whom the researcher's department was associated. The results from this study cannot be generalized to all hospitals in Oklahoma with maternity units. The hospitals were not chosen randomly, but instead deliberately by the researcher. Furthermore, only a small number of hospitals were chosen for each component, which is not representative of all hospitals in Oklahoma with maternity units.

Quantitative Surveys

Research Design

The research design was non-experimental, and the study was descriptive – more specifically, correlational. The study was cross-sectional, as the participants were asked questions at one time point, and no follow-up was conducted. Both the unit of analysis and unit of observation were at an individual level. A questionnaire was used to obtain

information about the nurses' level of knowledge about and attitudes toward breastfeeding to determine if these two concepts were related.

Survey Administration

Data was collected via a self-administered questionnaire between March of 2004 and October of 2004. It was delivered in a group setting to the participants' place of employment. It was administered by the researcher at staff meetings in the rural hospitals. In the urban hospitals, the unit coordinators preferred to distribute the surveys at staff meetings. The surveys took approximately ten minutes to complete. After completion in the rural hospitals, the researcher collected the questionnaires. After completion in the urban hospitals, the unit coordinators called the researcher to come collect the questionnaires. Two hundred surveys were distributed and 74 were returned for a 37% response rate.

Instrumentation and Measurement

Both variables, level of breastfeeding knowledge and positive/negative attitudes towards breastfeeding, were measured with one instrument developed by the researcher and her thesis committee. The survey was developed primarily using concepts from the results of three studies highlighting nurses' knowledge and attitudes and what role they play in a mother's decision to breastfeed (Bernaix, 2000; Patton et al., 1996; Register et al., 2000). The questions included in the instrument were grouped into four categories – knowledge, attitudes, demographics, and practices. (See Appendix II for the complete instrument). The questions will be discussed in depth in the following paragraphs.

The knowledge questions "Do breastfed babies grow at a faster rate than formula fed babies?" and "What is the appropriate amount of weight gain for exclusively breastfed babies?" were developed from the concept of adequate weight gain without formula supplementation from a study by Register et al. (2000). Included in that study was a confidence scale in which nurses indicated their level of confidence in dealing with mothers in different situations, and those situations were used to develop the knowledge questions "Mothers with concerns about inadequate breast milk supply find increased frequency of nursing an effective technique to increase their milk supply" and "What helps to alleviate breastfeeding jaundice?" (Register et al., 2000). Register et al. (2000) utilized the question "Is exclusive breastfeeding the most beneficial form of nutrition during the first 4 months of life?" as part of their attitude score, and this concept was used to develop the questions "Is fruit juice a necessary part of an infant's diet?" and "Does giving glucose water after breastfeeding help to satisfy a baby until the new mom's milk comes in completely?" The later question was also developed using a concept from a study by Bernaix (2000) discussing the efficacy of giving glucose water to breastfeeding infants. Two knowledge questions were developed based on Baby – Friendly practices: "Is there a time limit for breastfeeding infants?" was developed with the concept of breastfeeding on demand in mind, and "When is the most effective time for a new mom to initiate breastfeeding?" was developed with the concept of initiating breastfeeding immediately after delivery in mind (WHO/UNICEF, 1990). Two questions, "Does smoking interfere with breastfeeding?" and "Vitamin D supplementation may be required for breastfed infants" were developed from a previous study by an undergraduate student of the researcher's advisor that was used for a scholarship project. "When does a

mother's milk typically come in?" was a question the researcher wished to add to the instrument.

The studies by Register et al. (2000) and Bernaix (2000) utilized attitude questions that were based on the concepts of confidence in one's breastfeeding education, which was used to develop the statement "My breastfeeding education was adequate to meet my patient's needs", as well as the concept of nurses supporting breastfeeding mothers, which was used to develop the statement "Nurses are supportive of breastfeeding mothers." "The emotional benefits of breastfeeding are significant for both mother and child" was develop from the concept of the benefits of exclusive breastfeeding included in the study by Register et al. (2000). One attitude question from that study also dealt with nurses' agreement with a mother being able to work and breastfeed, and this was used to develop the statement "A working mother is able to breastfeed." The confidence scale in the study by Register et al. (2000), as mentioned previously, discussed several scenarios that may be encountered in which nurses would have to draw upon their knowledge base, and this concept was used to develop the statement "I can adequately answer patients' questions about breastfeeding." The confidence scale and questions pertaining to working with mothers who are breastfeeding and teaching different breastfeeding techniques were used to develop several statements about level of comfort in helping and educating different segments of the population about breastfeeding (Register et al., 2000). These segments included mothers on medication, mothers who may be younger or older than the nurses helping them, and mothers who may be from a different cultural background than the nurses helping them. Several attitude questions were developed based on Baby – Friendly practices: "Nurses

are supportive of breastfeeding immediately following delivery", "Providing new mothers with formula in the hospital is discouraging to breastfeeding", "Providing new mothers with formula in their take home diaper bag is discouraging to breastfeeding", "Rooming in of newborns with their mothers is important for breastfeeding success", and "My institution provides adequate community resources to new mothers before they leave the hospital to promote successful breastfeeding" (WHO/UNICEF, 1990). In a study by Patton et al. (1996), several barriers to breastfeeding initiation were discussed, including shortened length of stay, which was used to develop the statement "A shortened length of stay for new moms is a barrier to breastfeeding initiation." "My institution provides adequate privacy for new moms learning to breastfeed in an environment where they do not feel embarrassed about breastfeeding" was information the researcher hoped to glean from the nurses.

Some questions were grouped into a "practices" category. Most of those questions were developed by the researcher to gather specific information about Oklahoma hospitals, including "How long do you recommend a woman breastfeed?", "Do you consult a dietitian for nutritional information concerning breastfeeding?", "Does your facility have a lactation consultant?", "Have you ever met with a lactation consultant for advice about breastfeeding when a problem arose with a patient?", and "If breastfeeding problems arise, to whom do you refer your patients?". The later question was open-ended. Two questions, "Do you know your hospital's policy on breastfeeding?" and "Do you feel the WHO's Ten Steps to Successful Breastfeeding from the BFHI would benefit your institution?" were developed based on the BFHI (WHO/UNICEF, 1990). One question "What do you see as the greatest barrier in

assisting new moms to breastfeed?" was developed based on the study by Patton et al. (1996) that discussed nurses' perceived barriers to initiation of breastfeeding. The choices for this question in the instrument were taken from the results of that study, and included shortened length of stay, short staffing, other priorities, paperwork, hands – on lactation education too time consuming, and nurses' lack of breastfeeding knowledge (Patton et al., 1996).

The demographic questions included both basic questions to learn about the population as well as questions that were asked in all three of the previously mentioned studies (Bernaix, 2000; Patton et al., 1996; Register et al., 2000). The basic questions included age, shift worked, amount of maternal/newborn experience, nursing degree, if breastfeeding education was received in one's nursing program, and breastfeeding areas for which more education was needed (the later was an open-ended question). All of the previously mentioned studies discussed nurses having breastfeeding education from a source other than their nursing programs, and this concept was used to develop the questions "Have you ever had any formal breastfeeding training, other than education in your nursing program?", "Do you participate in breastfeeding continuing education?", and "Do you think a breastfeeding workshop would be beneficial to you?" (Bernaix, 2000; Patton et al., 1996; Register et al., 2000). Register et al. (2000) and Bernaix (2000) also discussed personal experience and its influence on breastfeeding attitudes, and this concept was used to develop the questions "Did you or your spouse breastfeed your children?", "How long did you breastfeed?", and "Did anyone in your family breastfeed a child?".

Each participant was given information about the study either by the researcher or their unit coordinator, and were provided with a description of the study on the cover page of the survey. They were informed that by filling out the survey and returning it they were agreeing to participate in the study (see approved scripts in Appendix II).

Reliability and Validity

Within the instrument were two indices – one measuring level of breastfeeding knowledge and one measuring positive/negative attitudes towards breastfeeding.

Level of breastfeeding knowledge was operationalized with an 11-item index within the survey instrument. The knowledge index measured nurses' basic breastfeeding knowledge. Examples from this index include "Do breastfed babies grow at a faster rate than formula fed babies?" and "Does smoking interfere with breastfeeding?" Participants received one point for correct answers and zero points for incorrect answers; their points were then summed to compute a composite score. The index had a possible range of scores from zero to 11, with higher scores indicating more breastfeeding knowledge. Data was collected at a nominal level of measurement; however, once the composite knowledge score was computed, the level of measurement became interval. Reliability was assessed by Cronbach's α ($\alpha = 0.243$). The reliability of this index was not high, which will be discussed in the Limitations section of Chapter V.

Positive/negative attitudes towards breastfeeding was operationalized with a 20-item index within the survey instrument. The attitude index measured nurses' general attitudes toward breastfeeding. Examples from this index include "The emotional

benefits of breastfeeding are significant for both mother and child" and "My breastfeeding education was adequate to meet my patients' needs." A Likert scale from strongly agree to strongly disagree made up the response categories for each item. Participants received points as follows: strongly agree (one point), agree (two points), neither agree nor disagree (three points), disagree (four points), and strongly disagree (five points). Their points were summed to compute a composite attitude score for them. The index had a possible range of scores from 20 to 100, with lower scores indicating more positive attitudes toward breastfeeding. Data was collected at a nominal level of measurement; however, once the composite knowledge score was computed, the level of measurement became interval. Reliability was assessed by Cronbach's α ($\alpha = 0.784$).

Validity was assessed in two ways. The researcher's committee members assessed both face validity and content validity to ensure that the instrument was readable for the participants and that it measured level of breastfeeding knowledge and positive/negative attitudes towards breastfeeding. Construct validity was assessed based on current literature. Literature states that breastfeeding knowledge and attitudes toward breastfeeding/supportive practices are associated, with more knowledge (for example, a score of 11 on the knowledge index) being indicative of more positive attitudes/supportive behaviors (a score of 20 on the attitude index), in maternity nurses ($r=.29$; $F<0.001$) (Bernaix, 2000). The instrument had construct validity, as the results for this survey indicated the same trend – participants with a higher knowledge score (more knowledge) tended to have a lower attitude score (more positive attitudes) ($r = -0.218$; $p < 0.077$).

Analysis

The data was analyzed using SPSS 12.0 for Windows. Frequencies, independent t-tests, and correlational matrices were used. For questions that required open-ended answers, content analysis was conducted.

Qualitative Interviews

Research Design

The research design was non-experimental, and the study was descriptive and inductive. The study was cross-sectional, as the participants were interviewed at one time point, and no follow-up was conducted. The interviews were used to obtain information about the nursing administrators' knowledge of the BFHI and the Ten Steps to Successful Breastfeeding and what their perceived barriers of implementation of the Ten Steps into their institutions were.

Interviews

Semi-structured interviews were conducted between March 2004 and November 2004. They were conducted at the participants' place of employment in order to provide a more natural setting to elicit more natural responses. They were conducted by the researcher. The interviews took approximately 30 minutes to complete. The interviews were tape recorded and later transcribed by the researcher for content analysis. Sixteen interviews were conducted for a response rate of 100%.

Instrumentation

The semi-structure interview schedules were created by the researcher based on the Ten Steps to Successful Breastfeeding from the BFHI and approved by the researcher's thesis committee. Questions pertaining to the interviewee's knowledge of the Initiative, knowledge of whether their institution did or did not practice each step, perceived barriers to each step, and perceived advantages of being Baby-Friendly were included in the interview schedule (See Appendix II).

Informed consent was obtained from each participant. The researcher discussed the consent form with each participant and they signed if they were willing to participate (see approved informed consent in Appendix II).

Validity

The researcher has participated in various research studies, is familiar with the research process, and has been trained in confidentiality measures. She has also taken a qualitative research class in which interviewing techniques were discussed at length, which aided her in her interviews for this project. The researcher attempted to keep the results of the interviews valid by being as objective as possible and not interjecting her ideas during the interviews. She attempted to be a listener and allow the participant to do the majority of the speaking during the interview and only speaking to ask or clarify a question. The researcher tape recorded the interviews in an effort to have accurate information to refer to when analyzing the data. Content validity was ensured by the researcher's thesis committee. They ensured the semi-structured interview schedule could answer the appropriate research questions and measure the appropriate objectives.

Analysis

The data was analyzed via a content analysis of the transcripts. The responses were analyzed by grouping them into general categories and narrowed down to more generalizable themes.

Quantitative Telephone and Mail-Out Surveys

Research Design

The research design was non-experimental, and the study was descriptive. The study was cross-sectional, as the participants were asked questions at one time point and no follow-up was conducted. Both the unit of analysis and unit of observation were at an individual level. The surveys were used to obtain information about the hospital administrators' knowledge of the Initiative and if the Ten Steps are being practiced in their institution and if they feel that purchasing their own formula was reasonable and possible for their institution.

Survey Administration

Data was collected via telephone and mail-out quantitative surveys between October 2004 and December 2004. Initially the researcher attempted to contact hospital administrators via telephone to complete the survey; however, the response rate was low, so the procedure was modified, and the researcher sent the surveys out in the mail to the administrators not contacted via telephone in an effort to elicit more respondents. When attempting to contact hospital administrators, several administrative assistants indicated

that a survey in the mail may be more feasible for the administrators to complete than a survey via telephone. The participants were provided with a self-addressed stamped envelope to return the surveys via mail to the researcher. IRB approval for the modification was obtained. The survey took approximately five minutes to complete. Twelve surveys, six via telephone and six returned via U.S. mail, were completed for a response rate of 75%.

Instrumentation and Measurement

The survey was designed based on the Ten Steps to Successful Breastfeeding. Each of the Ten Steps was provided, and the administrators were asked if their institution practiced the step and if they thought the step was reasonable for their institution (see Appendix II for the complete instrument). They were also asked questions pertaining to the feasibility of their institution purchasing its own formula. Data was collected at a nominal level of measurement. Due to such a small sample, percentages were calculated for the results.

In the case of the telephone participants, the researcher informed them about the study, while for the mail-out participants they received information about the study from the cover sheet of the survey. They were informed that by participating via telephone or by returning the survey through the mail they were agreeing to participate in the study (see Appendix II for approved IRB scripts and letters).

Validity

Validity was assessed in two ways. The researcher's committee members assessed both face validity and content validity to ensure that the instrument was readable for the participants and that it measured the knowledge of the hospital administrators about the Initiative and the practice of the Ten Steps in their institutions, as well as the feasibility of their institution purchasing its own formula. Construct validity was assessed based on current literature. Literature states that hospital administrators must be knowledgeable and involved in order for the Baby-Friendly designation to be successful (WHO/UNICEF, 1990; Philipp et al., 2001). It also states that convincing administrators to make the decision to purchase all of their institution's formula is a huge barrier to gaining the designation (Merewoood & Philipp, 2000).

Analysis

Data was analyzed using SPSS 12.0 for Windows. Frequencies were run in order to calculate percentages of responses for each question. On questions requiring open ended responses, content analysis was conducted.

CHAPTER IV

FINDINGS

"How Close Are Oklahoma Hospitals to Being Baby-Friendly?"

To be submitted to *The Journal of Obstetric, Gynecologic, and Neonatal Nursing*

As a new mother's first support system, it is important for hospital staff to promote and encourage breastfeeding in order to help mothers be successful. Traditional hospital practices often interfere with breastfeeding initiation and success, and it is vital to identify these barriers and harmful practices and work to improve approaches to promote breastfeeding (Philipp et al., 2001). The World Health Organization's (WHO) Baby – Friendly Hospital Initiative (BFHI) and the Ten Steps to Successful Breastfeeding were designed to alter traditional hospital practices that impede breastfeeding initiation and success (WHO/UNICEF, 1990). Implementation of Baby – Friendly practices has been found to increase the initiation, duration, and exclusivity of breastfeeding (Cattaneo & Buzzetti, 2001; DiGarolamo, Grummer-Strawn, & Fein, 2001; Kramer et al., 2001) and has been shown to increase breastfeeding rates in all ethnic and sociodemographic groups, especially those who have traditionally been the least likely to breastfeed, such as African Americans and mothers who are enrolled in Medicaid (Philipp et al., 2001).

Over 1 million health care professionals worldwide have been trained in Baby-Friendly practices (Baby-Friendly USA, 2004a, n.p.). In Nicaragua breastfeeding rates increased from 47% to almost 100% in 1999 after implementing the Ten Steps. After implementation in Poland rooming in rates rose from 19% in 1995 to 60% in 1998 and supplementation rates fell from 54% in 1988 to 22% in 1998 (Baby-Friendly USA, 2004a, n.p.). In the U.S., a notable study supporting the Ten Steps was conducted at Boston Medical Center (BMC) where lactation consultants and pediatric nurse educators worked together to provide the nursing staff with extensive training in Baby-Friendly practices for pediatric and obstetric nurses (Philipp et al., 2001). Between the years of 1995 and 1999 initiation rates increased by 1/3 and exclusivity rates increased six fold at BMC (Philipp et al., 2001). These rates remain stable as they continued to comply with the Ten Steps (Philipp, Malone, Cimo, & Merewood, 2003). The BMC study highlights the importance of cooperation among the entire health care team in an institution.

Because Oklahoma is well below the national averages for initiating and sustaining breastfeeding (CDC, 2000, n.p.; CDC, 2004b, n.p.), this study will focus on Oklahoma hospitals and how they help or hinder breastfeeding initiation and success. The study is comprised of three components – one focusing on the knowledge and attitudes of maternity nurses, one focusing on nursing administrators and their knowledge of the BFHI and how their institutions do or do not practice the Ten Steps to Successful Breastfeeding, and one focusing on hospital administrators and their knowledge of the BFHI, as well as their attitudes towards no formula reimbursement from formula companies, a key component of the Initiative. The study will answer three primary research questions: 1) What do maternity nurses in Oklahoma hospitals know about

breastfeeding and the Baby-Friendly Hospital Initiative and what is their attitude toward breastfeeding, 2) what do nursing administrators in Oklahoma hospitals know about the Baby-Friendly Hospital Initiative and how do they feel about implementation of the Initiative into their institution, and 3) what do hospital administrators know about the Baby – Friendly Hospital Initiative and do they feel implementation of all Ten Steps to Successful Breastfeeding into their institution is possible and reasonable?

Background

New mothers are more likely to breastfeeding when surrounded by a staff that is knowledgeable about and positive towards breastfeeding (McCreath, Wilcox, Laing, Crump, & Giles, 2001). Many mothers are receptive to breastfeeding, but when not in a pro-breastfeeding environment created by the staff around them, they may not have a successful breastfeeding experience. A great deal of responsibility then lies in the hands of the healthcare team, and if that team is not knowledgeable about and positive towards breastfeeding, a new mother's needs are not met and she may have an unsuccessful breastfeeding experience. For breastfeeding success, it is vital for the maternity staff to be armed with breastfeeding knowledge and to have a positive attitude towards breastfeeding (McCreath et al., 2001).

Helping to create a successful breastfeeding experience for a new mother is not solely the responsibility of the maternity staff that has direct contact with them. The entire healthcare system, including the administrative staff, must make a collaborative effort to promote and facilitate breastfeeding. Becoming a Baby-Friendly institution requires planning, implementing, and sustaining changes to traditional mindsets within an

institution; all departments, including administration, must be willing to work together to implement the Ten Steps to Successful Breastfeeding that are key to being Baby - Friendly (Philipp et al., 2001). Management within an institution must create and support a "breastfeeding culture" to demonstrate to all personnel that they too are positive towards breastfeeding, and, as a result, help to assist in the success of their institution's breastfeeding programs (WHO/UNICEF, 1990; Philipp et al., 2001). In order to promote a breastfeeding culture, managers must first be aware of what their institutions are already doing - both practices that aid in and practices that hinder breastfeeding success (WHO/UNICEF, 1990).

In addition to being knowledgeable about and promoting their institution's breastfeeding practices, administrators should consider the idea of their institution purchasing all of its formula and refraining from receiving any formula rebates from formula companies, an important step in becoming a designated Baby – Friendly Hospital (Baby-Friendly USA, 2004a, n.p.). Convincing administrators to begin purchasing an item they had previously been receiving at a free or reduced price is a huge barrier to an institution gaining the Baby-Friendly designation (Merewoood & Philipp, 2000).

In the third quarter of 2001, three breastfeeding questions were added to the National Immunization Survey (NIS) (Li, Zhao, Mokdad, Barker, & Grummer-Strawn, 2003). Respondents were asked if their child had ever been breastfed, was breastfed exclusively from birth to six months, and was breastfed at all from birth to 12 months. Over the past decade, breastfeeding initiation rates have increased from 54% to 65%, breastfeeding at all at six months from 22% to 27%, and breastfeeding at all at 12 months from 9% to 12% (Li et al., 2003). In addition, the drop at three months could be

attributed to most U.S. adults' belief that infants should be fed cereal or baby food at three months (Li, Ogden, Ballew, Gillespie, & Grummer-Strawn, 2002). The breastfeeding questions were piloted to 13% of the respondents to the 2001 NIS, but as of January of 2003, these questions are being asked of all participants (CDC, 2004a, n.p.).

The breastfeeding goals of Healthy People 2010 are as follows: to increase the number of mothers who initiate breastfeeding from 64% in 1998 to 75% in 2010, to increase the number of mothers who are breastfeeding at six months from 29% in 1998 to 50% in 2010, and to increase the number of mothers who are breastfeeding at 12 months from 16% in 1998 to 25% in 2010 (CDC, 2000, n.p.). The 2003 NIS results included geographically specific rates and compared its results to the Healthy People 2010 goals. The study found that 14 states have reached the goal of 75% of mothers initiating breastfeeding, six states have reached the goal of 50% of mothers breastfeeding at 6 months, and eight states have reached the goal of 25% of mothers breastfeeding at 12 months. Hawaii, Idaho, Oregon, Utah, Vermont, and Washington were the only states to have reached all Healthy People 2010 goals (CDC, 2004a, n.p.). Oklahoma, however, has far to go to reach the goals, as only 61.6% of children are ever breastfed, 25.2% are breastfed at six months, and 9% are breastfed at 12 months (CDC, 2004b, n.p.). By adopting the Ten Steps, Oklahoma hospitals could get closer to these goals, as they have been proven to increase breastfeeding rates (Philipp et al., 2001).

Methodology

This non-experimental and descriptive study was designed to determine the knowledge about and attitudes towards breastfeeding of maternity nurses in Oklahoma

hospitals, to determine what nursing administrators knew about the BFHI and what they perceived as barriers to implementation of the Ten Steps to Successful Breastfeeding in their institution, and to determine how much hospital administrators knew about the BFHI, if they knew if their institutions practiced the Ten Steps to Successful Breastfeeding, and if they felt purchasing formula instead of receiving formula from formula companies was possible and a reasonable practice for their institution. The study included a quantitative survey of maternity nurses, a qualitative, face-to-face interview with nursing administrators, and a quantitative telephone and mail-out survey with hospital administrators.

Sampling

Institutional Review Board approval was received from Oklahoma State University, after which a population of maternity nurses, nursing administrators, and hospital administrators in Oklahoma hospitals with maternity units or birthing centers was selected. A sample from that population in facilities that had a relationship with the Oklahoma State University (OSU) Department of Nutritional Sciences (NSCI) via the Dietetic Internship (DI) program was drawn.

For the quantitative surveys, four hospitals were chosen by the researcher, two urban and two rural. The urban hospitals were selected from the two major metro areas in Oklahoma. For the rural hospitals, the institution furthest north and the institution furthest south were selected in an attempt to geographically cover the state. After the hospitals were selected, the researcher attempted to survey all maternity nurses in those

hospitals. Approximately 200 surveys were distributed. The desired response rate was 40% or 80 respondents.

For the qualitative interviews and quantitative telephone and mail-out surveys, 16 hospitals, eight urban and eight rural, were selected. The researcher contacted the nursing administrators to set up times for and to conduct interviews. She contacted hospital administrators via telephone or U.S. mail to arrange surveys. The desired response rate for both the interviews with nursing administrators and surveys with hospital administrators was 100%.

Quantitative Survey: Procedure and Instrumentation

Data was collected via a self-administered questionnaire between March of 2004 and October of 2004. It was delivered in a group setting to the participants' place of employment. The surveys took approximately ten minutes to complete.

Both variables, level of breastfeeding knowledge and positive/negative attitudes towards breastfeeding, were measured with one instrument developed by the researcher and her thesis committee. The survey questions were developed based on concepts from the results of three studies highlighting nurses' knowledge and attitudes and what role they play in a mother's decision to breastfeed (Bernaix, 2000; Patton, Beaman, Csar, & Lewinski, 1996; Register, Eren, Lowdermilk, Hammond, & Tully, 2000). Within the instrument were two indices, one measuring level of breastfeeding knowledge and one measuring positive/negative attitudes toward breastfeeding.

Level of breastfeeding knowledge was operationalized with an 11-item index. The knowledge index measured nurses' basic breastfeeding knowledge, and they were given a composite score. The index had a possible range of scores from zero to 11, with higher

scores indicating more knowledge. Participants received one point for correct answers and zero points for incorrect answers; their points were summed to compute a composite knowledge score. Reliability was assessed by Cronbach's α (α = 0.2430).

Positive/negative attitudes towards breastfeeding was operationalized with a 20-item index measuring nurses' general attitudes toward breastfeeding. The index had a possible range of scores from 20 to 100, with lower scores indicating more positive attitudes. Participants received points as follows: strongly agree (one point), agree (two points), neither agree nor disagree (three points), disagree (four points), and strongly disagree (five points). Their points were summed to compute a composite attitude score. Reliability was assessed by Cronbach's α (α = 0.784).

The remainder of the survey consisted of general demographic questions and questions regarding specific practices, such as "How long do you recommend a woman breastfeed?" or "Do you consult a dietitian for nutritional information concerning breastfeeding?"

Qualitative Interviews with Nursing Administrators: Procedure and Instrumentation

Semi-structured interviews were conducted between March 2004 and November 2004. They were conducted by the researcher at the participants' place of employment to provide a natural setting and elicit more natural responses. The interviews took approximately 30 minutes to complete. They were tape recorded and later transcribed by the researcher for content analysis in which responses were grouped into broad categories and narrowed down to more generalizable themes.

The semi-structured interview schedules were created by the researcher based on the Ten Steps to Successful Breastfeeding from the BFHI and approved by her thesis committee. Questions pertaining to the interviewee's knowledge of the Initiative, knowledge of whether their institution did or did not practice each step, perceived barriers to each step, and perceived advantages of being Baby-Friendly were included.

Quantitative Telephone and Mail-Out Survey: Procedure and Instrumentation

Data was collected via telephone and mail-out quantitative surveys between October 2004 and December 2004. The researcher attempted to contact hospital administrators via telephone to complete the survey; however, the response rate was low, and surveys were sent via U.S. mail to the administrators not contacted via telephone in an effort to recruit more respondents. The survey took approximately five minutes to complete.

The survey was designed based on the Ten Steps to Successful Breastfeeding. Each of the Ten Steps was provided, and the administrators were asked if their institution practiced the Step and if they thought it was reasonable for their institution. They were also asked questions pertaining to the feasibility of their institution purchasing its own formula. Due to such a small sample, percentages were simply calculated for the results.

Analyses

The data from both surveys was analyzed using SPSS 12.0 for Windows. For open – ended survey questions, content analysis was performed. For the interviews, content analysis was also conducted to determine general themes within the data.

Results

Quantitative Surveys of Maternity Nurses

Two hundred surveys were distributed, and 74 were returned (55.4% urban and 44.6% rural) resulting in a response rate of 37%. The average age of the respondents was 39 ± 11 years (n=73). The respondents had an average of 13 ± 13 years of newborn or maternal experience (n=74). Seventy – seven percent of respondents had breastfed a child of their own (n=74), while an additional 10.8% of the respondents did not have children. Of the respondents, 47.9% had Bachelor degrees, 34.2% had Associate's degrees, 6.8% had Master's degrees, 8.2% had gone through a diploma program, and 2.7% were LPNs (n=74).

Less than half of the respondents (44.6%) reported having received breastfeeding education in their nursing program (n=74), and 66.7% felt they should have received more (n=72). Of the respondents, 65.8% have received some formal breastfeeding education (n=73), 68.9% reported participating in continuing breastfeeding education (n=74), and 87.3% felt a breastfeeding workshop would be beneficial to them (n=71).

The knowledge index had a range of scores from 5 to 11. The mean score was 8.51 ± 1.32, with higher scores indicating more knowledge. The mean score was divided by the highest score possible to obtain an average score of 77.36%. Results from the knowledge index are summarized in *Table 1*.

Table 1: Knowledge Index

Question	**n**	**% Correct**	**% Incorrect**
Do breastfed babies grow at a faster rate than formula fed babies?	72	70.8	29.2
Does smoking interfere with breastfeeding?	72	91.7	8.3
Vitamin D supplementation may be required for breastfed infants.	74	18.9	81.1
Mothers with concerns about inadequate breast milk supply find increased frequency of nursing an effective technique to increase their milk supply.	73	95.9	4.1
Is there a time limit for feeds for breastfeeding infants?	73	93.2	6.8
Is fruit juice a necessary part of an infant's diet (child less than one year of age)?	74	100	0
Does giving glucose water after breastfeeding help to satisfy a baby until the new mom's milk comes in completely?	72	84.7	15.3
When does a new mom's milk typically come in?	74	94.6	5.4
What helps to alleviate breastfeeding jaundice?	73	87.7	12.3
When is the most effective time for a new mom to initiate breastfeeding?	74	52.7	47.3
What is an appropriate amount of weight gain for exclusively breastfed babies (no formula supplementation)?	73	64.4	35.6

The attitude index had a range of scores from 20-50. The mean score was 34.5 ±7.0, with lower scores indicating more positive attitudes. The mean score was divided by the number of items in the index to obtain a number that could be compared to the Likert scale ratings, and it fell at 1.73 (between strongly agree and agree). Results from the attitude index are summarized in *Table 2.*

Table 2: Attitude Index (*Italicized* statements indicate Baby – Friendly items)

Question	n	Mean	Std
The emotional benefits of breastfeeding are significant for both mother and child.	74	1.16	.371
A working mother is able to breastfeed.	74	1.16	.371
My breastfeeding education was adequate to meet my patients' needs.	74	1.74	.703
I can adequately answer patients' questions about breastfeeding.	74	1.76	.679
I am comfortable helping mothers who are on medication initiate breastfeeding.	73	1.78	.750
I am comfortable educating mothers on medication about breastfeeding.	73	2.18	1.018
I am comfortable helping mothers who are older than me initiate breastfeeding.	71	1.39	.621
I am comfortable educating mothers who are older than me about breastfeeding.	71	1.41	.623
I am comfortable helping mothers who are younger than me initiate breastfeeding.	73	1.35	.616
I am comfortable educating mothers who are younger than me about breastfeeding.	73	1.30	.491
I am comfortable helping mothers who are from a different cultural background than me initiate breastfeeding.	73	1.47	.555
I am comfortable educating mothers from a different cultural background than myself about breastfeeding.	73	1.52	.580
Nurses are supportive of breastfeeding mothers.	73	1.88	.832
Nurses are supportive of initiating breastfeeding in the hospital immediately following delivery.	73	1.88	.832
Providing new mothers with formula in the hospital is discouraging to breastfeeding.	73	1.95	1.066
Providing new mothers with formula in their take home diaper bags is discouraging to breastfeeding.	74	2.73	1.220
A shortened length of stay for new moms is a barrier to breastfeeding initiation.	74	2.58	1.135
Rooming in of newborns with their mothers is important for breastfeeding success.	74	1.85	1.002
My institution provides adequate community resources to new mothers before they leave the hospital to promote successful breastfeeding.	74	2.01	.836
My institution provides adequate privacy for new moms learning to breastfeed in an environment where they do not feel embarrassed about breastfeeding.	74	1.76	.737

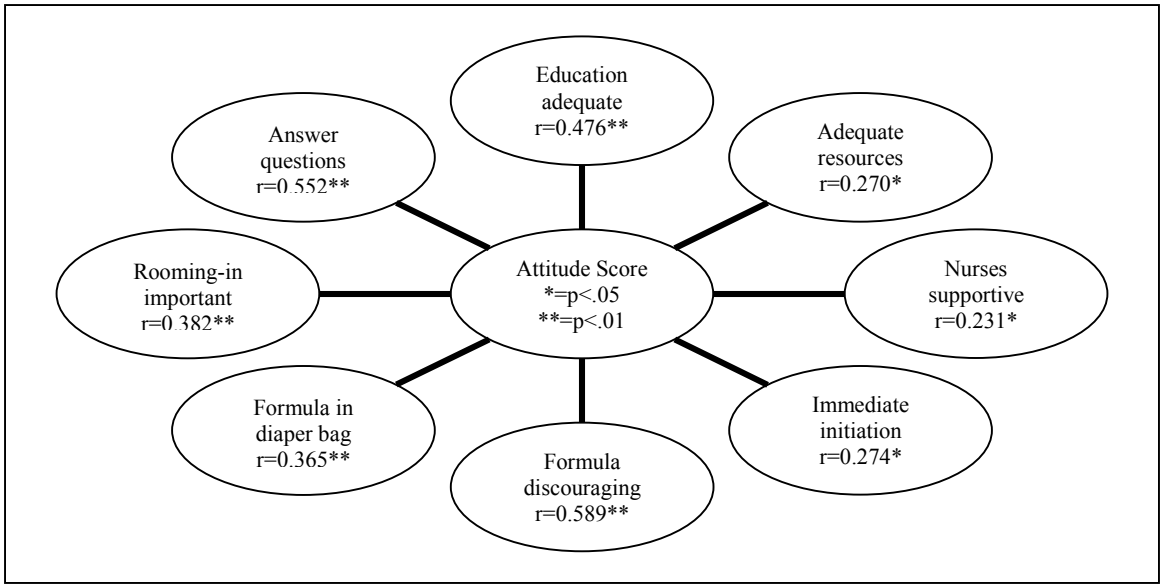
The respondents viewed the following as the greatest barriers to assisting new mothers with breastfeeding: short staffing (26.6%); other priorities (25%); lack of breastfeeding knowledge (17.2%); shortened length of stay (14.1%); education too time consuming (14.1%); and paperwork (3.1%) (n=64). Though the question asked respondents to choose *one* of the provided reasons, 10 not included in the previous numbers chose all of the listed reasons as the greatest barriers.

Most nurses (56.2%) recommended breastfeeding for up to one year, 38.4% recommended breastfeeding greater than one year, and 5.5% recommended breastfeeding for six months (n=73). Of the respondents, 62.5% felt the BFHI would be beneficial to their institution, 6.9% did not feel it would be beneficial, and 30.6% were not aware of the Initiative (n=72). When asked if they knew their hospital's breastfeeding policy, 78.1% did, 17.8% did not, and 4.1% indicated their institution did not have a policy (n=73). All of the respondents indicated their institution had a lactation consultant, and 97.3% had met with the lactation consultant when breastfeeding problems arose with their patients (n=74). Only 9.7% of respondents had ever consulted a dietitian for nutritional information concerning breastfeeding (n=72).

When asked whom they referred their patients to when breastfeeding problems arose, 100% responded with the lactation consultant at their facility; however, 7.1% stated they relied on their own abilities before going to someone else (n=70). When asked what areas they felt they needed more help in, participants responded as follows: 34.7% techniques to resolve difficult latch (i.e. inverted nipples and preterm infants), 22.4% breastfeeding and medications, 14.3% identification and management of common breastfeeding problems, 8.1% various nipple issues, and 4.1% maternal nutrition (n=49).

There was a trend between the knowledge and attitude indices ($r = -0.218$, $p < 0.077$), with more knowledge correlating to more positive attitudes. *Figure 1* summarizes the associations between the total attitude score and specific questions pertaining to different aspects of the BFHI. Nurses who had more positive attitude scores felt that being a Baby – Friendly hospital would be beneficial to their institution ($r = 0.325$, $p < 0.01$) and those with that sentiment also knew their institution's breastfeeding policy ($r = 0.375$, $p < 0.01$). Nurses who had not received any formal breastfeeding education had less positive attitude scores ($r = -0.320$, $p < 0.01$). Some items approached a significant correlation with the attitude score: not participating in continuing education and less positive attitudes ($r = -0.200$, $p < 0.088$); geographic region – urban or rural ($r = 0.219$, $p < 0.06$); and hospital site - large or small ($r = 0.247$, $p < 0.6$). In addition, nurses who felt they should have received more breastfeeding education in their nursing program were more likely to feel that a breastfeeding workshop would be beneficial to them ($r = 0.276$; $p < 0.05$).

Figure 1: Attitude Score and the BFHI



Qualitative Interviews with Nursing Administrators

Sixteen nursing administrators were asked to complete interviews, and 16 completed them resulting in a response rate of 100%. Overall, both urban and rural nursing administrators knew their institution supported and encouraged breastfeeding. Many stated it was encouraged if a new mother decided to breastfeed. Three urban administrators and one rural administrator were unsure of the actual policy in their institution or if their facility even had a specific breastfeeding policy. Most knew their institution had one or more lactation consultants on staff to see new mothers breastfeeding and help them with problems they may be having. Most also stated their facility provided prenatal classes that taught breastfeeding to new mothers. One rural respondent stated that their institution did not have a breastfeeding policy because the medical professionals at that facility could not come to consensus about the information that should be included in a policy.

More than half of the nursing administrators interviewed were unaware of the BFHI. Those who did know about it knew only general information. One urban respondent knew it was a WHO initiative and that there were 10 criteria but could not comment on the specifics of the criteria. One rural respondent had previously worked at a Baby – Friendly hospital in another state. That hospital dropped the designation because they felt the statement was too strong and did not like having such concrete guidelines. Those who were vaguely aware of the initiative had heard about it through various educational sessions or speakers, lactation consultants in their facilities, or had read about it. Overall, respondents fell into three groups – familiar with the Ten Steps, not familiar with the Ten Steps, or somewhat familiar with the Ten Steps (i.e. had simply

not seen them in this format or felt their institution already practiced many or all of the Steps).

When questioned about each step individually, most respondents knew if their institution did or did not practice each. The primary step that nursing administrators were unsure of was if their institution provided pacifiers to breastfeeding infants. In urban hospitals, some were unsure about breastfeeding on demand. In rural hospitals some were unsure when an infant was put to the breast following delivery. Overall, urban respondents were positive that their institution was already doing all of the Steps. In rural hospitals, nursing administrators cited not having a policy, giving no other food or drink besides breast milk, and not having support groups as the steps not being practiced at their hospitals. The primary barrier to having a policy was getting all of the medical professionals to come to a consensus about one. Nursing administrators felt that bringing this issue up in planning meetings could help overcome this barrier. The primary barrier to providing no other food or drink besides breast milk was changing the mindsets of older nurses who had been trained to give formula or glucose water if the baby had not eaten and getting physicians to support the practice. More education was cited as a possible solution to this barrier. The primary barriers to a support group included keeping it going and finding a meeting place for one in an economically depressed area. Nursing administrators felt that keeping a support group going could be accomplished by finding a dedicated leader and teaming up with other community resources, such as the health department, to a create a breastfeeding support group.

All of the participants believed that these steps were doable. Many cited changing the attitudes of health care professionals and education as ways to achieve each of the

steps. In the urban hospitals, half of the nursing administrators stated they saw no problems with these steps. However, overall there were some perceived problems. Getting physicians to buy into the Initiative and cooperate with each step was one. Many cited the demographics of their clientele as a major barrier to implementation. Many of the hospitals surveyed care for low income, less educated or teenage mothers who are not interested in breastfeeding. The two steps nursing administrators felt would be the most difficult to comply with were rooming-in and no pacifier use. Though all hospitals practiced rooming in, nursing administrators stated their patients often did not want the baby with them 24 hours a day. They wanted the baby to go back to the nursery at night and only wanted the baby to be brought to them when he/she was hungry. Respondents were hesitant to make strong stances on rooming in because they felt that telling the patients they had to have the baby with them 24 hours a day was not customer friendly. They also felt no pacifiers would be difficult because mothers come in with preconceived ideas about their use. The nursing administrators felt that these two steps should not be concrete but rather a choice for mothers to make. In the rural hospitals, respondents viewed nurses sharing their own experiences with breastfeeding moms as a problem, as what worked for one person may not be what they would want to teach from an institutional stand point.

Half of the urban nursing administrators felt their institution practiced all of the Steps and would not have to do anything to implement all of them. Overall, most respondents thought that what needed to be done to implement all of the Steps included getting all medical professionals to buy into the Initiative and cooperate with the Steps,

sitting down and writing a policy to incorporate each step and implement it, and rallying the community to support the Initiative.

Almost all of the nursing administrators interviewed felt being deemed Baby – Friendly would be advantageous from a marketing and business standpoint. By increasing the community's perception of their facility, they could encourage new clientele to come in, especially in those areas where competition between hospitals is high. There were a small number of respondents who did not feel, however, that the designation would be advantageous, simply because their clientele would not understand the terminology.

Quantitative Telephone and Mail-Out Surveys of Hospital Administrators

Sixteen hospital administrators were asked to complete a survey. Six responded by telephone and six via the mail-out survey resulting in a response rate of 75%. Of those twelve, 58.3% had heard of the BFHI and 63.6% had heard of the Ten Steps to Successful Breastfeeding. Table 3 summarizes the hospital administrator's knowledge of their institution's practice of each of the Ten Steps:

Table 3: Hospital Administrator's Knowledge of the Ten Steps (DK=Don't Know)

Question	**Response** (n=12)
Does your institution have a written breastfeeding policy?	Yes – 75% DK – 25%
Does your institution train all health care staff in the skills necessary to implement this policy?	Yes – 66.7% No – 16.7% DK – 16.7%
Does your institution inform all pregnant women about the benefits of breastfeeding?	Yes – 100%
Does your institution help mothers initiate breastfeeding within half an hour of birth?	Yes – 50% DK – 50%
Does your institution show mothers how to breastfeed and how to maintain lactation even if they should be separated from their infant?	Yes – 100%
Does your institution give newborn infants no food or drink other than breast milk unless medically indicated?	Yes – 33.3% No – 16.7% DK – 50%
Does your institution practice rooming-in, that is allow mothers and infants to remain together 24 hours a day?	Yes – 91.7% No – 8.3%
Does your institution encourage breastfeeding on demand?	Yes – 83.3% DK – 16.7%
Does your institution give artificial teats or pacifiers (also called dummies or soothers) to breastfeeding infants?	Yes – 25% No – 25% DK – 50%
Does your institution foster the establishment of breastfeeding support groups and refer mothers to them on discharge from the hospital or clinic?	Yes – 72.7% No – 18.2% DK – 9.1%

Of the respondents who indicated that all staff was not trained, 50% felt it was reasonable for their institution to train them. Of those who indicated their institution provided other food or drink besides breast milk to infants and provided artificial teats or pacifiers, 100% felt that these steps were not reasonable for their institution because they are a parental, not an institutional, choice. Of the respondents who indicated their institution did not foster the establishment of breastfeeding support groups, 100% felt it was reasonable for their institution but cited lack of parental interest as a barrier.

Of the respondents, 75% felt that implementation of all Ten Steps into their institution was reasonable, while 25% were not sure. Many of the respondents (66.7%)

felt that the Baby – Friendly designation would be advantageous to their institution, 16.7% felt it would not be, and 16.7% were not sure. They cited advantages as increasing mother's breastfeeding interest and marketing for their institution by showing mothers that the institution feels that breastfeeding is important. All of the respondents felt that they foster a breastfeeding environment.

Fifty percent of respondents did not feel it was reasonable for their institution to purchase its own formula, while 25% were not sure. Seventy – five percent felt it was possible for their institution to purchase its own formula, 16.7% felt it was not possible, and 8.3% were not sure.

Discussion

The nurses surveyed exhibited an average amount of breastfeeding knowledge, and few cited having received any breastfeeding education in their nursing program. Few nurses relied on their own knowledge and abilities when breastfeeding problems arose – most referred to their hospital's lactation consultant. Overall, the participants had positive attitudes towards breastfeeding; however they did not feel that nurses were always supportive of breastfeeding mothers. They exhibited less positive attitudes for concepts regarding Baby – Friendly practices, such as being supportive of breastfeeding immediately following delivery, believing that providing formula in discharge packs had adverse affects on breastfeeding, believing that rooming-in was important for breastfeeding success, or believing that their community provides adequate resources to breastfeeding mothers. They perceived short staffing and other priorities as the primary barriers to breastfeeding education with their patients.

Overall, the nursing administrators interviewed in Oklahoma hospitals know what breastfeeding practices are being done in their hospitals, and many feel their facility already complies with most of the Ten Steps, though few are familiar with the actual BFHI. They felt the major barriers to the Steps were lack of cooperation from the medical community, changing the mindset of older nurses, and not being customer friendly by implementing concrete guidelines (such as mandatory rooming-in and no pacifier use). They felt some aspects of the Steps should be a mother's as opposed to facility's choice.

Many hospital administrators had heard of the Initiative and the Ten Steps, and most knew if their institution was or was not practicing each of the Steps. They felt implementation of all Steps would be both possible and advantageous from a marketing standpoint. However, though most felt it was *possible* to purchase all of their own formula, they did not feel it was reasonable.

Previous literature states that nurses, by their own admission, do not receive comprehensive breastfeeding education in their nursing programs (Freed, Clark, Harris, & Lowdermilk, 1996). They are often no better equipped to handle lactation management problems after finishing their maternity rotations than before the rotation (Freed et al. 1996). Though a past study by Bernaix (2000) found that nurses often rely on their own knowledge and abilities when breastfeeding problems arise, this study found they go to their facility's lactation consultant more than relying on their own abilities. Nursing curricula and continuing education alike should focus on providing accurate and consistent education to maternity nurses so they are more confident in their own abilities (Bernaix, 2000). Knowledge is often indicative of positive or supportive breastfeeding

practices (Bernaix, 2000; Patton et al., 1996), and this trend was also found to be true in this study, as attitudes improved as knowledge increased. Nurses in this study had an average amount of breastfeeding knowledge, as well as an overall positive attitude towards breastfeeding.

Though nurses were not as positive about some of the Baby – Friendly practices, breastfeeding initiation and success rates can be increase significantly by implementing these practices (WHO/UNICEF, 1990). Some of the practices they did not have positive attitudes about, such as putting an infant to the breast immediately and rooming-in, are associated with exclusive breastfeeding upon discharge (Cattaneo & Buzzetti, 2001). The participants in this study felt that short staffing and other priorities were primary barriers to assisting new mothers with breastfeeding, which is consistent with a study by Patton et al. (1996).

This study found that nursing administrators and hospital administrators had a good grasp on the breastfeeding policies and practices in their institutions, which is important in ensuring the institution provides a breastfeeding environment (WHO/UNICEF, 1990). Though lack of cooperation from the medical community was cited as a barrier to implementation of the BFHI, this could be explained by the fact that many medical professionals may be supportive of breastfeeding, but they do not know how to handle breastfeeding problems and implement appropriate interventions (Schanler, O'Connor, & Lawrence, 1999), emphasizing again the importance of education. Though some Steps are viewed as not being customer friendly, such as rooming – in and no pacifier use, research shows that mothers who are allowed and encouraged to room-in are less likely to cease breastfeeding compared with their

counterparts who did not practice rooming-in (Scott, Landers, Hughes, & Binns, 2001), and the duration of breastfeeding, frequency of feeds, and increases in breastfeeding problems have all been correlated with pacifier use (Howard CR, Howard FM, Lanphear, deBlieck, Eberly, & Lawrence, 1999). As this study and previous literature found, persuading administrators to buy formula they regularly receive free from the manufacturer is a huge barrier to becoming Baby-Friendly (Merewood & Philipp, 2000). However, removing formula from maternity facilities has been proven to be one of the most cost-effective health interventions, as removal of formula promotes breastfeeding (WHO, 1998).

Conclusions

Improving breastfeeding education programs for nurses may help provide them with adequate and consistent knowledge they can rely on when assisting their breastfeeding patients. Furthermore, nurses are willing to participate in continuing breastfeeding education and breastfeeding workshops, which may also help to increase their breastfeeding knowledge. More positive breastfeeding attitudes can be facilitated by increasing the breastfeeding knowledge base of maternity nurses.

Breastfeeding success rates are positively affected by BFHI practices and guidelines (Philipp et al. 2003), so it is important to improve attitudes of maternity nurses about Baby – Friendly practices. Basic education and information regarding the BFHI and its successes may help nurses to understand how the Ten Steps promote breastfeeding, leading to more positive attitudes. Furthermore, since nurses feel that other priorities are a barrier to breastfeeding education for new mothers, helping them to

realize the importance of the Ten Steps and how some Steps, such as rooming-in, actually can help free up their time may help them overcome their perceived barriers.

Though most of the Steps are believed to be practiced in Oklahoma hospitals, the importance of breastfeeding on demand as opposed to strict feeding schedules, giving no other food or drink besides breast milk, and having a policy should be reiterated. A small amount of education may help each institution see how these practices are vital to breastfeeding success. Also, helping administrators see the importance of having concrete steps, such as rooming-in and no pacifier use, may benefit the entire staff in an institution because when management feels something is important, often the remainder of the staff will buy in as well. The importance of rooming in should be communicated to the mothers by the health care staff in those institutions where it is not felt to be customer friendly. As previously mentioned, rooming-in helps to free up some of the maternity nurses' time, helping to overcome some of the barriers to breastfeeding education of their patients.

Administrators are taking a step in the right direction toward becoming Baby – Friendly, as knowing what is going on in their institution to promote breastfeeding is an important step in promoting a breastfeeding environment (WHO/UNICEF, 1990). However, by changing their mindset about purchasing formula, a large barrier to becoming Baby – Friendly could be overcome.

Oklahoma has far to go, but they are on their way to becoming Baby – Friendly. They are already doing many things to support and promote breastfeeding initiation and success. In order to keep up what is being done and continue to add Baby – Friendly practices, education at all levels should be done. Administration needs to be educated

about the Initiative and its benefits so they can begin to change mindsets and practices in their institutions. By creating a "breastfeeding culture", they show personnel that it is important to them, helping them to see the importance (WHO/UNICEF, 1990; Philipp et al., 2001). Educating nurses will also be beneficial to promotion of breastfeeding and adoption of Baby – Friendly practices – this would be a great start as the results of this study indicate maternity nurses are willing to participate in more breastfeeding education.

Limitations

The results of this study cannot be generalized to all Oklahoma hospitals, as the sample was convenient and purposive – it was not a random sample. It was convenient to sample from hospital that had relationships with the researcher's department, and the researcher chose a sample from a population whose characteristics were to be studied. Furthermore, the sample of hospital administrators was very small, making it even harder to generalize to the entire state. However, this study can give some insight into some hospitals in Oklahoma and how they compare to Baby – Friendly standards and can serve as a basis for a larger study of hospitals in Oklahoma.

The knowledge index used in this study did not have high reliability. Nurses seemed to report not receiving their breastfeeding education in an organized manner in their nursing curricula. Therefore they pull their knowledge from various sources, which could explain the index's lack of underlying congruency. The index itself may also need improvement for future research. It measured several different aspects of knowledge, and did not relate only to breastfeeding knowledge pertaining to the mother or breastfeeding

knowledge pertaining only to the infant. In future studies, an index that measures more congruent concepts of knowledge may be useful.

Abstract

Objectives: To determine breastfeeding knowledge and attitudes of maternity nurses, to determine if nursing administrators know about the Baby – Friendly Hospital Initiative (BFHI), and to determine if hospital administrators know about the BFHI.

Design: Knowledge and attitude survey of maternity nurses, face-to-face interviews with nursing administrators, and telephone and mail-out surveys of hospital administrators.

Setting: Staff meetings in the maternity units, offices of maternity nurses, offices of hospital administrators.

Participants: All participants were from hospitals in Oklahoma. Seventy – four maternity nurses and 12 hospital administrators completed surveys, and 16 nursing administrators completed interviews.

Results: The average knowledge percentage was 77.36%, the average attitude score was 1.73, and those nurses with more knowledge tended to have more positive attitudes ($r= -0.218$, $p<0.077$). Though many of the Steps are being complied with in Oklahoma hospitals, nursing administrators cite leniency with steps pertaining to rooming in and pacifier use. Of the hospital administrators, 58.3% were aware of the BFHI. Seventy – five percent of administrators felt it was possible to purchase their own formula, but only 50% felt it was reasonable.

Conclusions: Improvement in breastfeeding education programs for nurses is important to increase their knowledge and elicit more positive breastfeeding attitudes. Though nursing and hospital administrators know what breastfeeding practices are being done in their facilities, the importance of concrete guidelines should be reiterated. Also, the advantages of purchasing their own formula should be stressed to hospital administrators.

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CHAPTER V

CONCLUSION

This chapter will reiterate the hypotheses and objectives of this study and draw conclusions based on the results as to whether the hypotheses were proven or disproven and whether the objectives were or were not met.

Knowledge and Attitudes of Maternity Staff

Hypothesis #1

Maternity nurses in Oklahoma are not knowledgeable about breastfeeding.

Conclusions:

Maternity nurses in the hospitals surveyed had an average score of 77.36% on the knowledge index, indicating they have an average amount of knowledge about breastfeeding.

Hypothesis #2

Maternity nurses in Oklahoma do not have positive attitudes toward breastfeeding.

Conclusions:

Maternity nurses in the hospitals surveyed had an average score of 1.73 on the attitude index (one being the most positive score possible and two being the next most positive score possible), indicating they do have positive attitudes toward breastfeeding.

Nursing Administrators

Objective #1

To determine if nursing administrators in Oklahoma hospitals are knowledgeable about the Baby-Friendly Hospital Initiative.

Conclusions:

Overall, nursing administrators do not know about or know very little about the Baby – Friendly Hospital Initiative, as demonstrated by their responses from the qualitative interviews where they indicated they did not know about the Initiative or knew only minimal information they may have gleaned from various sources, such as their facility's lactation consultant or through literature.

Objective #2

To determine if Oklahoma hospitals practice the Ten Steps to Successful Breastfeeding.

Conclusions:

Oklahoma hospitals do practice many of the Ten Steps to Successful Breastfeeding, as indicated by the responses to the interview questions, but there is some leniency in steps pertaining to rooming-in and pacifier use. Respondents feel these steps should be more mothers' choice as opposed to concrete guidelines.

Objective #3

To determine the perceived barriers to implementation of the Ten Steps to Successful Breastfeeding into Oklahoma hospitals.

Conclusions:

The perceived barriers to implementation of the Ten Steps to Successful Breastfeeding are lack of cooperation from medical professionals, changing mindsets of older nurses in terms of giving no other food or drink besides breast milk, and not being customer friendly by telling mothers they have no choice in terms of rooming in or pacifier use, as indicated by the participants in their responses to the interview questions.

Hospital Administrators

Hypothesis #1

Hospital administrators do not know about the Baby – Friendly Hospital Initiative.

Conclusions:

Of the hospital administrators surveyed, 58.3% had heard of the BFHI, and 63.6% had heard of the Ten Steps to Successful Breastfeeding, indicating that, overall, hospital administrators do know about the Initiative.

Hypothesis #2

Hospital administrators do not know if their institution practices the Ten Steps to Successful Breastfeeding.

Conclusions:

Overall, hospital administrators do know if their institution practices each of the Ten Steps specifically, as indicated by their "Yes"/"No" responses of greater than 50% on seven of the 10 questions regarding the Steps. Half indicated "Don't know" when asked if their institution put an infant to the breast immediately following delivery, provided any food or drink other than breast milk, or provided pacifiers.

Hypothesis #3

Hospital administrators feel that for their institution to purchase all of its own formula is unreasonable.

Conclusions:

Though 75% of hospital administrators surveyed felt it was possible to purchase their own formula, only 50% felt it was reasonable, indicating that, overall, they do not feel it is feasible for their institutions to purchase their own formula.

Limitations

The results of this study cannot be generalized to all Oklahoma hospitals, as the sample was convenient and purposive – it was not a random sample. It was convenient to sample from hospital that had relationships with the researcher's department, and the researcher chose a sample from a population whose characteristics were to be studied. Furthermore, the sample of hospital administrators was very small, making it even harder to generalize to the entire state. However, this study can give some insight into some hospitals in Oklahoma and how they compare to Baby – Friendly standards and can serve as a basis for a larger study of hospitals in Oklahoma.

The knowledge index used in this study did not have high reliability. Nurses seemed to report not receiving their breastfeeding education in an organized manner in their nursing curricula; therefore they pull their knowledge from various sources, which could explain the index's lack of underlying congruency. The index itself may also need improvement for future research. It measured several different aspects of knowledge, and did not relate only to breastfeeding knowledge pertaining to the mother or breastfeeding knowledge pertaining only to the infant. In future studies, an index that measures more congruent concepts of knowledge may be useful.

Implications

This study highlights the importance of comprehensive, organized breastfeeding education for maternity nurses, both in their nursing curricula and in continuing education and breastfeeding workshops. Promotion by all medical professionals is warranted in order to increase awareness and implement more breastfeeding education for maternity nurses. The results of this study could be shared at dietetic conferences, such as the Oklahoma Dietetic Association or American Dietetic Association. Dietitians could team up with maternity nurses and lactation consultants to promote the Ten Steps to their institution's administration. This information could also be shared at nursing conferences or continuing breastfeeding education workshops for maternity nurses. Sharing this information with WIC agencies may also be useful in order to inform them of the Initiative and begin to facilitate cooperation within communities for support groups after discharge.

Education for administration about the BFHI and its successes, highlighting the importance of implementing all steps, even those thought to be less customer friendly, is also important. Encouragement of the medical community in an institution to come together to plan and organize an approach to the administration is warranted. By helping administration see the importance, other personnel will hopefully follow suit in their support of Baby – Friendly practices. Not only is it important to educate administration about the BFHI and the Ten Steps, it is also necessary to show individuals who make the decision about purchasing formula how beneficial not receiving any free or reduced formula can be.

In the future, a larger scale study may be useful for supporting the conclusions of this study. Creation of a more reliable knowledge scale may help clarify results. Also, recruitment of more participants may help the results be more generalizable to all hospitals in Okalahoma.

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APPENDIX I

INSTITUTIONAL REVIEW BOARD

APPROVAL

Oklahoma State University
Institutional Review Board

Protocol Expires: 2/2/2005

Date: Tuesday, February 03, 2004 IRB Application No HE0437

Proposal Title: How Close are Oklahoma Hospitals to Being Baby-Friendly?

Principal Investigator(s):

Jill Parker
916 S. Pine
Stillwater, OK 74074

Tay Seacord Kennedy
312 HES
Stillwater, OK 74078

Reviewed and Processed as: Expedited

Approval Status Recommended by Reviewer(s): Approved

Dear PI :

Your IRB application referenced above has been approved for one calendar year. Please make note of the expiration date indicated above. It is the judgment of the reviewers that the rights and welfare of individuals who may be asked to participate in this study will be respected, and that the research will be conducted in a manner consistent with the IRB requirements as outlined in section 45 CFR 46.

As Principal Investigator, it is your responsibility to do the following:

1. Conduct this study exactly as it has been approved. Any modifications to the research protocol must be submitted with the appropriate signatures for IRB approval.
2. Submit a request for continuation if the study extends beyond the approval period of one calendar year. This continuation must receive IRB review and approval before the research can continue.
3. Report any adverse events to the IRB Chair promptly. Adverse events are those which are unanticipated and impact the subjects during the course of this research; and
4. Notify the IRB office in writing when your research project is complete.

Please note that approved projects are subject to monitoring by the IRB. If you have questions about the IRB procedures or need any assistance from the Board, please contact me in 415 Whitehurst (phone: 405-744-5700, colson@okstate.edu).

Sincerely,

Carol Olson

Carol Olson, Chair
Institutional Review Board

Oklahoma State University Institutional Review Board

Date	Friday, November 05, 2004	Protocol Expires:	2/2/2005
IRB Application	HE0437		
Proposal Title:	How Close are Oklahoma Hospitals to Being Baby-Friendly?		

Reviewed and Processed as: ~~Expedited~~ **Modification**

Status Recommended by Reviewer(s) **Approved**

Principal Investigator(s) :

Jill Parker
916 S. Pine
Stillwater, OK 74074

Tay Seacord Kennedy
312 HES
Stillwater, OK 74078

The requested modification to this IRB protocol has been approved. Please note that the original expiration date of the protocol has not changed. The IRB office MUST be notified in writing when a project is complete. All approved projects are subject to monitoring by the IRB

☒ The final versions of any printed recruitment, consent and assent documents bearing the IRB approval stamp are attached to this letter. These are the versions that must be used during the study.

Signature : Carol Olson

Carol Olson, Chair, OSU Institutional Review Board

Friday, November 05, 2004
Date

APPENDIX II

APPROVED IRB INSTRUMENTS, SCRIPTS, AND CONSENT FORMS

YOU ARE NOT REQUIRED TO FILL OUT THIS SURVEY! However, by completing this form you are agreeing to participate in my research. Not completing the form will not affect your job evaluation. This is a completely confidential survey, and I will only use a summary based on composite reports to present my findings. ***No individual responses will be used! Please DO NOT write your name anywhere on this survey!***

Please circle your answer.

1. Do breastfeed babies grow at a faster rate than formula fed babies?
   Yes No

2. Does smoking interfere with breastfeeding?
   Yes No

3. Vitamin D supplementation may be required for breastfed infants.
   Yes No

4. Mothers with concerns about inadequate breast milk supply find increased frequency of nursing an effective technique to increase their milk supply.
   Yes No

5. Is there a time limit for feeds for breastfeeding infants?
   a. Yes, 20 minutes
   b. Yes, 30 minutes
   c. Yes, 40 minutes
   d. No, there is no limit

6. Is fruit juice a necessary part of an infant's diet (child less than one year of age)?
   Yes No

7. Does giving glucose water after breastfeeding help to satisfy a baby until the new mom's milk comes in completely?
   Yes No

8. When does a new mom's milk typically come in?
   a. 30 minutes to an hour after she gives birth
   b. 2-12 hours after she gives birth
   c. 12-24 hours after she gives birth
   d. 48-72 hours after she gives birth

9. What helps to alleviate breastfeeding jaundice?
   a. Breastfeeding less often
   b. Breastfeeding the same amount
   c. Breastfeeding more often

10. When is the most effective time for a new mom to initiate breastfeeding?
    a. 10 minutes after birth she gives birth
    b. 30 minutes after she gives birth
    c. one hour after she gives birth
    d. 2 hours after she gives birth

11. What is an appropriate amount of weight gain for exclusively breastfed babies (no formula supplementation)?
    a. Double birth weight by 2 – 4 months
    b. Double birth weight by 5 – 6 months
    c. Triple birth weight by 8 – 9 months
    d. Triple birth weight by 12 months

How much do you agree with the following statements? Do you strongly agree, agree, neither agree nor disagree, disagree, or strongly disagree?

12. The emotional benefits of breastfeeding are significant for both mother and child.
    a. Strongly agree
    b. Agree
    c. Neither agree nor disagree
    d. Disagree
    e. Strongly disagree

13. A working mother is able to breastfeed.
    a. Strongly agree
    b. Agree
    c. Neither agree nor disagree
    d. Disagree
    e. Strongly disagree

14. My breastfeeding education was adequate to meet my patients' needs.
    a. Strongly agree
    b. Agree
    c. Neither agree nor disagree
    d. Disagree
    e. Strongly disagree

15. I can adequately answer patients' questions about breastfeeding.
    a. Strongly agree
    b. Agree
    c. Neither agree nor disagree
    d. Disagree
    e. Strongly disagree

16. I am comfortable helping mothers who are on medication initiate breastfeeding.
    a. Strongly agree
    b. Agree
    c. Neither agree nor disagree
    d. Disagree
    e. Strongly disagree

17. I am comfortable educating mothers on medication about breastfeeding.
    a. Strongly agree
    b. Agree
    c. Neither agree nor disagree
    d. Disagree
    e. Strongly disagree

18. I am comfortable helping mothers who are older than me initiate breastfeeding.
    a. Strongly agree
    b. Agree
    c. Neither agree nor disagree
    d. Disagree
    e. Strongly disagree

19. I am comfortable educating mothers who are older than me about breastfeeding.
    a. Strongly agree
    b. Agree
    c. Neither agree nor disagree
    d. Disagree
    e. Strongly disagree

20. I am comfortable helping mothers who are younger than me initiate breastfeeding.
    a. Strongly agree
    b. Agree
    c. Neither agree nor disagree
    d. Disagree
    e. Strongly disagree

21. I am comfortable educating mothers who are younger than me about breastfeeding.
    a. Strongly agree
    b. Agree
    c. Neither agree nor disagree
    d. Disagree
    e. Strongly disagree

22. I am comfortable helping mothers who are from a different cultural background than me initiate breastfeeding.
    a. Strongly agree
    b. Agree
    c. Neither agree nor disagree
    d. Disagree
    e. Strongly disagree

23. I am comfortable educating mothers from a different cultural background than myself about breastfeeding.
    a. Strongly agree
    b. Agree
    c. Neither agree nor disagree
    d. Disagree
    e. Strongly disagree

24. Nurses are supportive of breastfeeding mothers.
    a. Strongly agree
    b. Agree
    c. Neither agree nor disagree
    d. Disagree
    e. Strongly disagree

25. Nurses are supportive of initiating breastfeeding in the hospital immediately following delivery.
    a. Strongly agree
    b. Agree
    c. Neither agree nor disagree
    d. Disagree
    e. Strongly disagree

26. Providing new mothers with formula in the hospital is discouraging to breastfeeding. (Note: This question is referring to providing new mothers with formula before any foreseen breastfeeding problems arise. In other words, before they have had adequate time to try breastfeeding)
    a. Strongly agree
    b. Agree
    c. Neither agree nor disagree
    d. Disagree
    e. Strongly disagree

27. Providing new mothers with formula in their take home diaper bags is discouraging to breastfeeding.
    a. Strongly agree
    b. Agree
    c. Neither agree nor disagree
    d. Disagree
    e. Strongly disagree

28. A shortened length of stay for new moms is a barrier to breastfeeding initiation.
    a. Strongly agree
    b. Agree
    c. Neither agree nor disagree
    d. Disagree
    e. Strongly disagree

29. Rooming in of newborns with their mothers is important for breastfeeding success.
    a. Strongly agree
    b. Agree
    c. Neither agree nor disagree
    d. Disagree
    e. Strongly disagree

30. My institution provides adequate community resources to new mothers before they leave the hospital to promote successful breastfeeding.
    a. Strongly agree
    b. Agree
    c. Neither agree nor disagree
    d. Disagree
    e. Strongly disagree

31. My institution provides adequate privacy for new moms learning to breastfeed in an environment where they do not feel embarrassed about breastfeeding.
    a. Strongly agree
    b. Agree
    c. Neither agree nor disagree
    d. Disagree
    e. Strongly disagree

32. What do you see as the greatest barrier in assisting new moms to breastfeed?
    a. Shortened length of stay
    b. Short staffing
    c. Other priorities
    d. Paperwork
    e. Hands – on lactation education too time consuming
    f. Nurses' lack of breastfeeding knowledge

33. How long do you recommend a woman breastfeed?
    a. 3 months
    b. 6 months
    c. Up to one year
    d. Over one year

34. Do you consult a dietitian for nutritional information concerning breastfeeding?
    Yes No None available

35. Does your facility have a lactation consultant?
    Yes No

36. Have you ever met with a lactation consultant for advice about breastfeeding when a problem arose with a patient?
    Yes No None available

37. Do you know your hospital's policy on breastfeeding?
    Yes No Does not have a policy

38. Do you feel the World Health Organization's Ten Steps to Successful Breastfeeding from the Baby – Friendly Hospital Initiative would be beneficial to your institution?
    Yes No Not aware of the Initiative

39. If breastfeeding problems arise, to whom do you refer your patients?

_____

_____

Demographics

1. What is your age? _____

2. What is your primary shift worked? Day Night

3. How much maternal/newborn experience do you have? _____

4. What is your nursing degree?
    a. Diploma program
    b. Associate's degree
    c. Bachelor's degree
    d. Master's degree

5. Did you receive breastfeeding education in your nursing program?
    Yes No

6. Do you feel you should have received more breastfeeding education in your nursing program?
   Yes No

7. Have you ever had any formal breastfeeding training, other than education in your nursing program?
   Yes No

8. Do you participate in breastfeeding continuing education?
   Yes No

9. Do you think a breastfeeding workshop would be beneficial to you?
   Yes No

10. Did you or your spouse breastfeed your children?
    Yes No Do not have children

11. How long did you breastfeed?
    e. 1-3 months
    f. 4-6 months
    g. 7-12 months
    h. More than one year
    i. More than 2 years
    j. Do not have children

12. Did anyone in your family breastfeed a child?
    Yes No

13. Please describe one or two breastfeeding areas you feel you need more education on.

_____

_____

_____

_____

My name is Jill Parker, and I am a graduate student at Oklahoma State University. I am studying Dietetics, and I am working on my Master's in Nutritional Sciences. For my Master's Project, I am looking at maternity nurses' knowledge and attitudes toward breastfeeding and the World Health Organization's Baby – Friendly Hospital Initiative. I am trying to determine how close Oklahoma Hospitals are to being Baby – Friendly.

Today, I am asking you to take a few minutes and fill out a survey on knowledge and attitudes toward breastfeeding initiation and success. This survey is just one part of my research and is designed to determine how you, as maternity nurses, feel about breastfeeding initiation and promotion.

This survey is completely voluntary, and no penalty will result from your choosing not to fill it out. However, by filling it out and returning it, you are agreeing to participate in my research.

Not only is the survey voluntary, but it is also confidential. There is no way your answers can be connected with you. The results will only be presented in a composite report, and no individual responses will ever be used. The survey is completely confidential, and the surveys will only be seen by me or my committee members, who are faculty at OSU and are aware of the importance of confidentiality. After the project is complete, all surveys will be destroyed.

If you would like to take a few minutes and fill out this survey, I would greatly appreciate it. If you have any questions, feel free to contact myself, Jill Parker, Department of Nutritional Sciences, Oklahoma State University, 301 HES, Stillwater, OK 74078, 405-744-5965; or Dr. Tay Kennedy, Assistant Professor, Department of Nutritional Sciences, Oklahoma State University, 301 HES, Stillwater, OK, 74078, 405-744-5965. For additional information, please contact Dr. Carol Olson, IRB Chair, Oklahoma State University, 415 Whitehurst, Stillwater, OK 74078, 405-744-1676.

Thank you very much for your time and efforts,

Jill Parker, Graduate student, OSU

PLEASE TEAR THIS PAGE OFF AND KEEP IT FOR YOUR RECORDS!

To Maternity Nurses:

Jill Parker is a graduate student at Oklahoma State University. She is studying Dietetics, and she is working on her Master's in Nutritional Sciences. For her Master's Project, she is looking at maternity nurses' knowledge and attitudes toward breastfeeding and the World Health Organization's Baby – Friendly Hospital Initiative. She is trying to determine how close Oklahoma Hospitals are to being Baby – Friendly.

She is asking you to take a few minutes and fill out a survey on knowledge and attitudes toward breastfeeding initiation and success. This survey is designed to determine how you, as maternity nurses, feel about breastfeeding initiation and promotion.

This survey is completely voluntary, and no penalty will result from your choosing not to fill it out. However, by filling it out and returning it, you are agreeing to participate in her research.

Not only is the survey voluntary, but it is also confidential. There is no way your answers can be connected with you. The results will only be presented in a composite report, and no individual responses will ever be used. The survey is completely confidential, and the surveys will only be seen by Jill Parker or her committee members, who are faculty at OSU and are aware of the importance of confidentiality. After the project is complete, all surveys will be destroyed.

If you would like to take a few minutes and fill out this survey, she would greatly appreciate it. If you have any questions, feel free to contact Jill Parker, Department of Nutritional Sciences, Oklahoma State University, 301 HES, Stillwater, OK 74078, 405-744-5965; or Dr. Tay Kennedy, Assistant Professor, Department of Nutritional Sciences, Oklahoma State University, 301 HES, Stillwater, OK, 74078, 405-744-5965. For additional information, please contact Dr. Carol Olson, IRB Chair, Oklahoma State University, 415 Whitehurst, Stillwater, OK 74078, 405-744-1676.

Thank you very much for your time and efforts,

Jill Parker, Graduate student, OSU

Hello, I am Jill Parker. I am a Master's student at Oklahoma State University. I am here today to discuss breastfeeding with you. Here is an informed consent form. I will go over it with you and answer any questions you may have before we begin. Would you like to participate? Please sign and date two copies of the consent form, one is for you to keep, and one is for me to retain for my records. (I will then sign and date both copies and give one to the participant). May I tape this interview? Are you ready to begin? I will take some notes.

1. Please describe your hospital's policy on breastfeeding.

Information for interviewee: The World Health Organization developed an international initiative, known as the Baby – Friendly Hospital Initiative, in an effort to increase breastfeeding initiation in the delivery room and breastfeeding success by new mothers. This is an international recommendation that has been slow to spread in the U.S. Today, there are only 38 Baby – Friendly Hospitals in the U.S.

2. Tell me what you know about the World Health Organization's Baby – Friendly Hospital Initiative.

Information for interviewee: Here are the Ten Steps to Successful Breastfeeding describing how the Baby – Friendly Hospital Initiative is implemented. These Ten Steps are required practices in order for a hospital to become Baby – Friendly.

3. Are you familiar with these?

4. Describe how your institution does or does not practice each of these Ten Steps.

Follow – ups for each of the Ten Steps:

Which of these steps do you think are doable for your institution? Which would you have trouble implementing?

Describe how you might be able to incorporate this step into your institution.

Describe the problems you see with this step (or would see coming with implementation.)

5. What would it take to implement all of the Ten Steps into your institution?

6. Do you think being Baby – Friendly would be advantageous to your institution?

Follow – ups:
How?

Closing: I am also contacting hospital administrators at the hospitals where I am interviewing nursing administrators in an effort to determine their opinions on the Ten Steps to Successful Breastfeeding. Would you be able to provide me with the name and number of a hospital administrator here that I could contact?
Thank you so much for your time.

Ten Steps to Successful Breastfeeding:

1. Have a written breastfeeding policy that is routinely communicated to all health care staff.
2. Train all health care staff in skills necessary to implement this policy.
3. Inform all pregnant women about the benefits and management of breastfeeding.
4. Help mothers initiate breastfeeding within half an hour of birth.
5. Show mothers how to breastfeed, and how to maintain lactation even if they should be separated from their infants.
6. Give newborn infants no food or drink other than breast milk, unless medically indicated.
7. Practice rooming-in - that is, allow mothers and infants to remain together - 24 hours a day.
8. Encourage breastfeeding on demand.
9. Give no artificial teats or pacifiers (also called dummies or soothers) to breastfeeding infants.
10. Foster the establishment of breastfeeding support groups and refer mothers to them on discharge from the hospital or clinic.

Source: *Protecting, Promoting and Supporting Breastfeeding: The Special Role of Maternity Services,* a joint WHO/UNICEF statement published by the World Health Organization.

Informed Consent

Authorization

I, _____, hereby authorize or direct Jill Parker or assistants of her choosing, to perform the following procedure.

Title: How close are Oklahoma hospitals to being Baby – Friendly?

Who is conducting the study: This study is being conducted by Jill Parker, a supervised graduate student in the Nutritional Sciences department at Oklahoma State University.

Why is the study being conducted: To fulfill the requirements of a Master's degree in Nutritional Sciences.

What is the purpose of the study: To determine how much nursing administrators know about the World Health Organization's Baby – Friendly Hospital Initiative in an effort to determine how close Oklahoma hospitals are to being Baby – Friendly.

What will I have to do today: You will be interviewed today by Jill Parker about your knowledge of the Baby – Friendly Hospital Initiative. The interview will take approximately 30 – 45 minutes and will be tape recorded for accuracy purposes.

What are the risks of my participation: There are no risks involved, except accidental disclosure of responses. However, confidentiality is taken very seriously and every possible measure will be taken to prevent such a risk from occurring.

What are the benefits of my participation: By participating in this interview, you are providing information to be used collaboratively to determine how close Oklahoma hospitals are to being Baby – Friendly. The Baby – Friendly Hospital Initiative is an international recommendation, and it is important to identify what is currently being done to improve breastfeeding initiation and success, as well as barriers to implementing such an initiative. Your responses will help determine what is being done in Oklahoma to improve breastfeeding initiation and success.

What will be done with my responses: Your responses will be kept completely confidential. Your name will not be attached to your responses, and your responses will be reported as a summary of composite responses. No individual responses will ever be reported. Your responses will be kept in a locked cabinet and will only be seen by Jill Parker or her committee members. All committee members are trained in confidentiality measures. After the project is complete, all original transcripts and tapes will be destroyed.

Who do I contact if I have questions: If you have any questions concerning this project, please feel free to contact Jill Parker, Department of Nutritional Sciences, Oklahoma State University, 301 HES, Stillwater, OK 74078, 405-744-5965; Dr. Tay Kennedy, Assistant Professor, Department of Nutritional Sciences, Oklahoma State University, 301 HES, Stillwater, OK, 74078, 405-744-5965. For additional information, please contact Dr. Carol Olson, IRB Chair, Oklahoma State University, 415 Whitehurst, Stillwater, OK 74078, 405-744-1676.

Do I have to participate: Your participation is absolutely voluntary and no consequences will result from your not participating. You are free to withdraw from the study at any time without penalty after contacting the principle investigator, Jill Parker, at the phone or address listed above.

I have read and fully understand the consent form. I sign freely and voluntarily, and a copy has been give to me.

Date:_____ Time:_____(a.m./p.m.)

Name of participant (Please print):_____

Signature of participant:_____

I certify that I have personally explained all elements to the subject before requesting the subject to sign.

Signature of researcher:_____

Part I
My name is Jill Parker, and I am a Dietetic graduate student at Oklahoma State University. I am working on my Master's Thesis Project, and I would like to make an appointment with you to interview you about issues concerning breastfeeding and breastfeeding policies.

Pause…..
(If respondent says at this point they would like to participate, continue, if they say nothing or want further explanation, go to Part II, if they say no, go to Part III)

When could I make an appointment to come speak with you and conduct a 30 – 45 minute interview?

Okay, I will see you on (confirm date and time).

Thank you very much for your time.

Part II
I am doing my project on nurses' knowledge and attitudes about breastfeeding. I am also looking to find out how close Oklahoma hospitals are to being deemed Baby – Friendly by the World Health Organization. I am interviewing nursing administrators to find out more about Oklahoma hospitals' breastfeeding practices and policies and to determine what nursing administrators see as barriers to improving breastfeeding initiation and success in their institutions. The interview only takes about 30 – 45 minutes. Would you be interested in participating in my research?

Pause…..
(If respondent says yes, continue, if they refuse, go to Part III)

When could I make an appointment to come speak with you and conduct a 30 – 45 minute interview?

Okay, I will see you on (confirm date and time).

Thank you very much for your time.

Part III
If respondent says no at any time, researcher will go here.

Thank you very much for your time.

1. The Baby-Friendly Hospital Initiative is a World Health Organization recommendation proposed to increase breastfeeding initiation and success rates. Have you ever heard of the Baby – Friendly Hospital Initiative?

   Yes No Not sure

2. In order for an institution to be designated Baby – Friendly, they must implement a set of steps, known as the Ten Steps to Successful Breastfeeding. Have you ever heard of the Ten Steps to Successful Breastfeeding?

   Yes No Not sure

The following questions concern each of the Ten Steps. Please indicate whether your institution does or does not practice each of them.

3. Does your institution have a written breastfeeding policy that is routinely communicated to all health care staff?

   Yes No Don't Know

If response to Number 3 is 'No':

Do you feel implementation of this step into your institution is reasonable?

Yes No Don't Know

What is the primary barrier you see to implementation of this step into your institution?

4. Does your institution train all health care staff in skills necessary to implement this policy?

   Yes No Don't Know

If response to Number 4 is 'No':

Do you feel implementation of this step into your institution is reasonable?

Yes No Don't Know

What is the primary barrier you see to implementation of this step into your institution?

5. Does your institution inform all pregnant women about the benefits and management of breastfeeding?

Yes No Don't Know

If response to Number 5 is 'No':

Do you feel implementation of this step into your institution is reasonable?

Yes No Don't Know

What is the primary barrier you see to implementation of this step into your institution?

6. Does your institution help mothers initiate breastfeeding within half an hour of birth?

Yes No Don't Know

If response to Number 6 is 'No':

Do you feel implementation of this step into your institution is reasonable?

Yes No Don't Know

What is the primary barrier you see to implementation of this step into your institution?

7. Does your institution show mothers how to breastfeed, and how to maintain lactation even if they should be separated from their infants?

Yes No Don't Know

If response to Number 7 is 'No':

Do you feel implementation of this step into your institution is reasonable?

Yes No Don't Know

What is the primary barrier you see to implementation of this step into your institution?

8. Does your institution give newborn infants no food or drink other than breast milk, unless medically indicated?

Yes No Don't Know

If response to Number 8 is 'No':

Do you feel implementation of this step into your institution is reasonable?

Yes No Don't Know

What is the primary barrier you see to implementation of this step into your institution?

9. Does your institution practice rooming-in - that is, allow mothers and infants to remain together - 24 hours a day?

Yes No Don't Know

If response to Number 9 is 'No':

Do you feel implementation of this step into your institution is reasonable?

Yes No Don't Know

What is the primary barrier you see to implementation of this step into your institution?

10. Does your institution encourage breastfeeding on demand?

Yes No Don't Know

If response to Number 10 is 'No':

Do you feel implementation of this step into your institution is reasonable?

Yes No Don't Know

What is the primary barrier you see to implementation of this step into your institution?

11. Does your institution give artificial teats or pacifiers (also called dummies or soothers) to breastfeeding infants?

Yes No Don't Know

If response to Number 11 is 'No':

Do you feel implementation of this step into your institution is reasonable?

Yes No Don't Know

What is the primary barrier you see to implementation of this step into your institution?

12. Does your institution foster the establishment of breastfeeding support groups and refer mothers to them on discharge from the hospital or clinic?

Yes No Don't Know

If response to Number 12 is 'No':

Do you feel implementation of this step into your institution is reasonable?

Yes No Don't Know

What is the primary barrier you see to implementation of this step into your institution?

13. Thinking about the all of the Ten Steps, do you feel implementation of ALL steps into your institution is reasonable?

Yes No Not sure

14a. Do you think being designated Baby – Friendly by the World Health Organization would be advantageous to your institution?

Yes No Not sure

14b. ***If response to 14a is 'Yes'***, how?

_____

_____

_____

To be designated Baby-Friendly, an institution must purchase ALL of their formula. They may not receive any free or reduced formula from formula companies.

15. Do you feel it is *reasonable* for your institution to purchase its own formula?

Yes No Not sure

16. Do you feel it is *possible* for your institution to purchase its own formula?

Yes No Not sure

17. Do you feel that you, as an administrator, foster an environment in your institution that promotes and protects breastfeeding?

Yes No Not sure

Thank you very much for your time!

My name is Jill Parker, and I am a Dietetic graduate student at Oklahoma State University. I am doing my Master's Thesis Project on the healthcare systems' knowledge and attitudes about breastfeeding and the World Health Organization's Baby - Friendly Hospital Initiative. Being Baby – Friendly is an international recommendation, and I am interested in how close Oklahoma hospitals are to being "Baby Friendly".

I am interviewing hospital administrators to determine if they are knowledgeable about some of their hospitals *basic* policies and practices regarding breastfeeding. The reason I am speaking with administrators is that the Initiative takes the stance that breastfeeding initiation and success is dependant on the entire institution's knowledge and attitudes, starting from the top. I am contacting you today to see if you would be interested in participating in my research by completing a five minute survey. By agreeing to the survey, you are agreeing to participate in my research. Your responses will be kept completely confidential and will not be reported as individual responses. Your name will never be attached to your responses, and I will only use a summary based on composite reports to present my data. There is no penalty for choosing not to participate in this interview. Your responses will be kept in a locked cabinet and will only be seen by myself or my committee members, who are faculty at OSU and are aware of the importance of confidentiality. This survey will only take 5 minutes.
I will provide you with my name and contact information at the end of the survey. If you would like the name and contact information of my major advisor or the IRB chair at Oklahoma State University, I will be glad to provide that as well.

Would you like to participate in my study?
Is now a good time, or would you like to set up an appointment for another time?

If respondent says they would like to do the survey now: Begin survey.

If respondent would like to reschedule: When would be a better time to complete the survey?

If respondent says no: Thank you very much for your time.

Provide my name and contact information:
Jill Parker, Department of Nutritional Sciences, Oklahoma State University, 301 HES, Stillwater, OK 74078, 405-744-5965

If requested, will provide the following information:
Dr. Tay Kennedy, Assistant Professor, Department of Nutritional Sciences, Oklahoma State University, 301 HES, Stillwater, OK, 74078, 405-744-5965. For additional information, please contact Dr. Carol Olson, IRB Chair, Oklahoma State University, 415 Whitehurst, Stillwater, OK 74078, 405-744-1676.

Date

Address

Dear (Name):

My name is Jill Parker, and I am a graduate student at Oklahoma State University. I am studying Dietetics, and I am working on my Master's in Nutritional Sciences. I am conducting short surveys with hospital administrators as part of my Master's thesis project. I am doing my Master's thesis project on the healthcare systems' knowledge and attitudes about breastfeeding and the World Health Organization's Baby - Friendly Hospital Initiative. Being Baby – Friendly is an international recommendation, and I am interested in how close Oklahoma hospitals are to being "Baby Friendly". The reason I am speaking with administrators is that the Initiative takes the stance that breastfeeding initiation and success is dependant on the entire institution's knowledge and attitudes, starting from the top.

I would greatly appreciate it if you could take a moment to fill out my survey. This survey is completely voluntary. However, by completing the survey and returning it, you are agreeing to participate in my research.

Not only is this interview voluntary, but it is also confidential. Your name will never be attached to your responses. ***Please do not write your name anywhere on the survey.*** The results will only be presented in a summary of composite responses, and no individual responses will ever be used. Your responses will be kept in a locked cabinet and will only be seen by myself or my committee members, who are faculty at OSU and are aware of the importance of confidentiality. After the project is complete, all surveys will be destroyed.

If you have any questions concerning this project, please feel free to contact Jill Parker, Department of Nutritional Sciences, Oklahoma State University, 301 HES, Stillwater, OK 74078, 405-744-5965; Dr. Tay Kennedy, Assistant Professor, Department of Nutritional Sciences, Oklahoma State University, 301 HES, Stillwater, OK, 74078, 405-744-5965. For additional information, please contact Dr. Carol Olson, IRB Chair, Oklahoma State University, 415 Whitehurst, Stillwater, OK 74078, 405-744-1676.

If you could return the survey by *Friday, December 3, 2004* I would greatly appreciate it.

Thank you again for your time,

Jill Parker, Graduate student, Oklahoma State University

Date

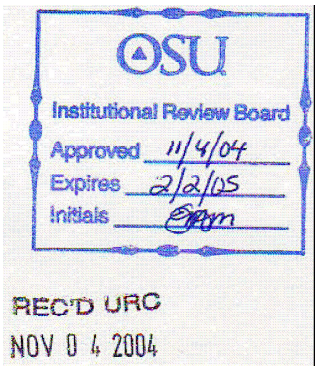
Dear (Name):

My name is Jill Parker, and I am a graduate student at Oklahoma State University. I am studying Dietetics, and I am working on my Master's in Nutritional Sciences. I am conducting short surveys with hospital administrators as part of my Master's thesis project. I sent you a survey to complete approximately 2 weeks ago. This is just a reminder to accompany that survey. I would greatly appreciate it if you could take a moment to fill out my survey and return it by *Friday, December 3, 2004*. I would also like to remind you that the survey is voluntary and confidential.

If you have any questions concerning this project, please feel free to contact Jill Parker, Department of Nutritional Sciences, Oklahoma State University, 301 HES, Stillwater, OK 74078, 405-744-5965; Dr. Tay Kennedy, Assistant Professor, Department of Nutritional Sciences, Oklahoma State University, 301 HES, Stillwater, OK, 74078, 405-744-5965. For additional information, please contact Dr. Carol Olson, IRB Chair, Oklahoma State University, 415 Whitehurst, Stillwater, OK 74078, 405-744-1676.

Thank you again for your time,

Jill Parker, Graduate student, Oklahoma State University

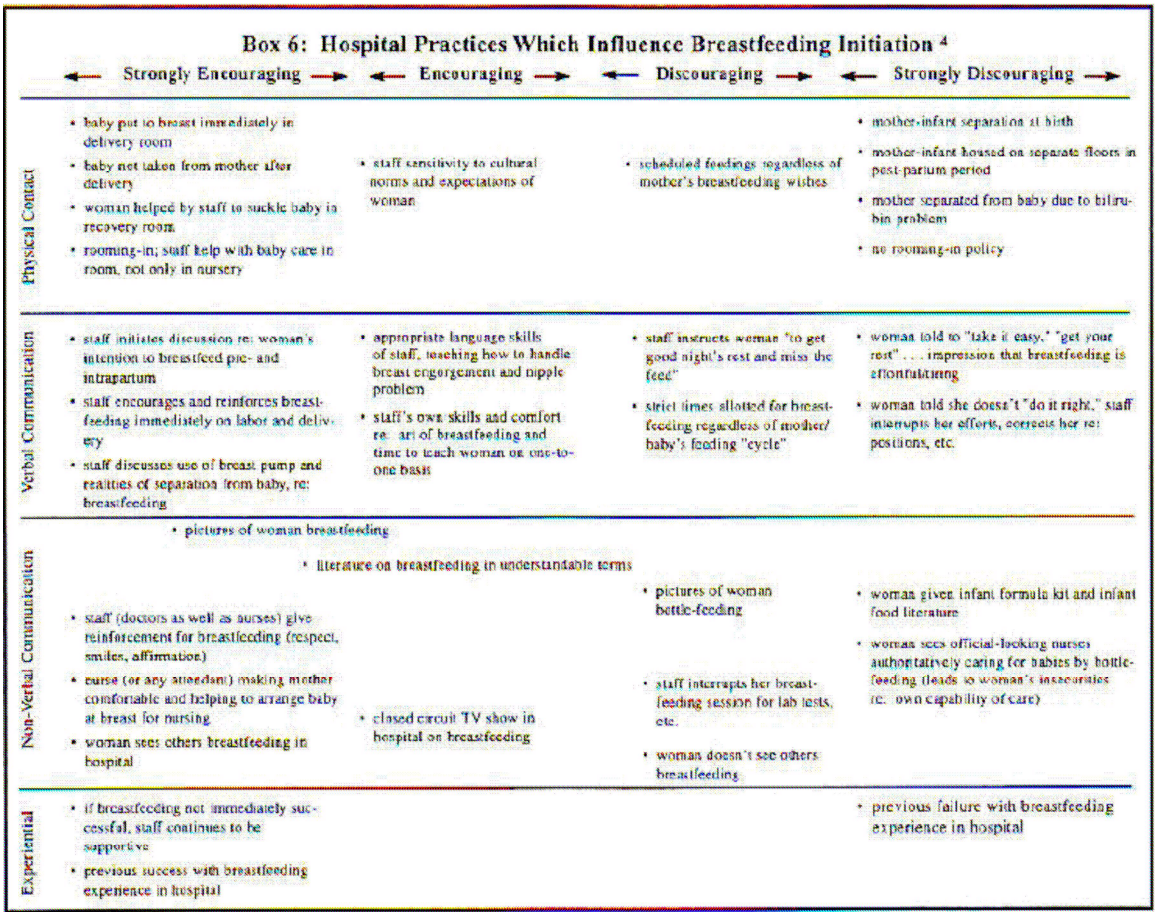


APPENDIX III

HOSPITAL PRACTICES THAT INFLUENCE BREASTFEEDING

FROM

HHS BLUEPRINT FOR ACTION ON BREASTFEEDING



Box 6: Hospital Practices Which Influence Breastfeeding Initiation [4]

	← Strongly Encouraging →	← Encouraging →	← Discouraging →	← Strongly Discouraging →
Physical Contact	• baby put to breast immediately in delivery room • baby not taken from mother after delivery • woman helped by staff to suckle baby in recovery room • rooming-in; staff help with baby care in room, not only in nursery	• staff sensitivity to cultural norms and expectations of woman	• scheduled feedings regardless of mother's breastfeeding wishes	• mother-infant separation at birth • mother-infant housed on separate floors in post-partum period • mother separated from baby due to bilirubin problem • no rooming-in policy
Verbal Communication	• staff initiates discussion re: woman's intention to breastfeed pre- and intrapartum • staff encourages and reinforces breastfeeding immediately on labor and delivery • staff discusses use of breast pump and realities of separation from baby, re: breastfeeding	• appropriate language skills of staff, teaching how to handle breast engorgement and nipple problem • staff's own skills and comfort re: art of breastfeeding and time to teach woman on one-to-one basis	• staff instructs woman "to get good night's rest and miss the feed" • strict times allotted for breastfeeding regardless of mother/baby's feeding "cycle"	• woman told to "take it easy," "get your rest" . . . impression that breastfeeding is effortful/taxing • woman told she doesn't "do it right," staff interrupts her efforts, corrects her re: positions, etc.
Non-Verbal Communication	• pictures of woman breastfeeding • literature on breastfeeding in understandable terms • staff (doctors as well as nurses) give reinforcement for breastfeeding (respect, smiles, affirmation) • nurse (or any attendant) making mother comfortable and helping to arrange baby at breast for nursing • woman sees others breastfeeding in hospital	• closed circuit TV show in hospital on breastfeeding	• pictures of woman bottle-feeding • staff interrupts her breastfeeding session for lab tests, etc. • woman doesn't see others breastfeeding	• woman given infant formula kit and infant food literature • woman sees official-looking nurses authoritatively caring for babies by bottle-feeding (leads to woman's insecurities re: own capability of care)
Experiential	• if breastfeeding not immediately successful, staff continues to be supportive • previous success with breastfeeding experience in hospital			• previous failure with breastfeeding experience in hospital

From: Satcher, D. S. (2001). DHHS blueprint for action on breastfeeding. *Public Health Rep., 116,* 72-73.

VITA

Jill Renee Parker

Candidate for the Degree of

Master of Science

Thesis: HOW CLOSE ARE OKLAHOMA HOSPITALS TO BEING BABY – FRIENDLY?

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Personal Data: Jill Renee Parker, RD, LD
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Education: 2005 **M.S.,** Nutritional Sciences
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2005 **Dietetic Internship**
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2003 **B.S.,** Human Nutrition
College of Human Environmental Sciences, Oklahoma State University, Stillwater OK

Completed the requirements for the Master of Science degree at Oklahoma State University in December of 2005.

Experience: 2005 *Corporate Dietitian, Advance Food Company, Enid, OK*
Conduct nutrient analysis of the company's various product lines. Interpret and comply with federal labeling regulations and guidelines. Assist Research and Development with new products and nutritional aspects of those products.

2003-2004 *Graduate Assistant, Oklahoma State University, Stillwater OK*
Participated in qualitative and quantitative research projects. Gained a better understanding of the research process.

2003 *Undergraduate Assistant/Teaching Assistant, OSU, Stillwater OK*
Participated in qualitative and quantitative research projects. Helped organize and grade assignments for Nutrition Assessment and Counseling class.

2001-2002 *Diet Clerk, Stillwater Medical Center, Stillwater OK*
Learned aspects of different diets, put patient information and diets into Computrition system, oversaw trayline, some managerial duties over food service operations, worked most stations in kitchen, and acted as catering supervisor in the absence of regular supervisor.

Professional Memberships: American Dietetic Association
Oklahoma Dietetic Association
North Central District Dietetic Association

Name: Jill Renee Parker Date of Degree: December, 2005

Institution: Oklahoma State University Location: Stillwater, Oklahoma

Title of Study: HOW CLOSE ARE OKLAHOMA HOSPITALS TO BEING BABY - FRIENDLY?

Pages in Study: 126 Candidate for the Degree of Master of Science

Major Field: Nutritional Sciences

Scope and Method of Study:

The objectives were to determine breastfeeding knowledge and attitudes of maternity nurses in Oklahoma and to determine if nursing and hospital administrators in Oklahoma know about the Baby – Friendly Hospital Initiative. A survey of maternity nurses, interviews with nursing administrators, and surveys of hospital administrators were conducted.

Findings and Conclusions:

Nurses with more knowledge tended to have more positive attitudes. Nursing administrators cited leniency with rooming in and pacifier use. 58.3% of hospital administrators were aware of the BFHI, 75% felt it was possible to purchase their own formula, and 50% felt it was reasonable.

Improvement in education programs for nurses is important to increase their knowledge and positive breastfeeding attitudes. Though nursing and hospital administrators know the practices in their facilities, the importance of concrete guidelines should be reiterated. The advantages of purchasing all formula should be stressed to hospital administrators.

ADVISER'S APPROVAL: Dr. Tay Kennedy